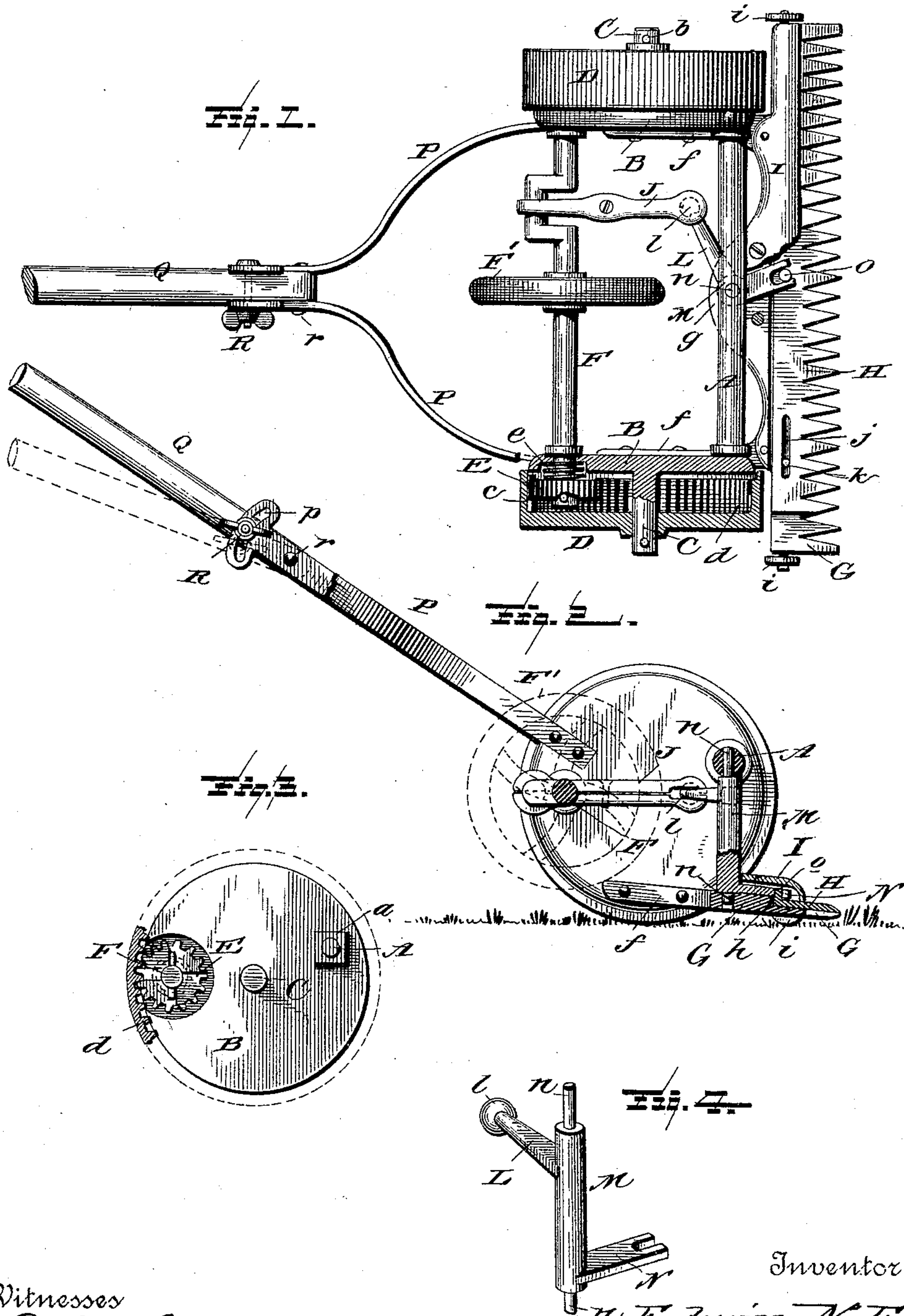


(No Model.)

E. N. FOX.
LAWN MOWER.

No. 444,608.

Patented Jan. 13, 1891.



Witnesses
L. C. Mills.
C. H. Bond.

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UNITED STATES PATENT OFFICE

EDWIN N. FOX, OF WINCHESTER, VIRGINIA.

LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 444,608, dated January 13, 1891.

Application filed July 8, 1890. Serial No. 358,084. (No model.)

To all whom it may concern:

Be it known that I, EDWIN N. FOX, a citizen of the United States, residing at Winchester, in the county of Frederick and State of Virginia, have invented certain new and useful Improvements in Lawn-Mowers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in lawn-mowers; and it has for its object, among others, to provide an improved device of this character which shall be simple, cheap, durable, and efficient in operation.

The novelty resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a top plan of my improved mower with parts broken away and others in section. Fig. 2 is a section through the same in the direction of the handle. Fig. 3 is an end view of one of the end disks of the frame, showing also a portion of the toothed rim of the wheel. Fig. 4 is a perspective view of the connection between the pitman and the cutter-bar.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a transverse rod or bar, the ends of which are secured in the end disks B in any suitable manner, preferably by having their openings screw-threaded to receive the threaded ends of the shaft, upon which are placed nuts *a*, by which the parts may be tightened in case of wear. These disks are formed centrally with stub-axles C, as shown best in Fig. 1, and upon these stub-axles the wheels D are sleeved, so as to revolve freely thereon, being prevented from displacement by suitable means, as the pin or key *b*. The inner face of the rim *c* of these wheels is toothed, as shown at *d*, (best in Fig. 3,) and these toothed

rim are designed to mesh with the cog-wheels E upon the ends of the crank-shaft F, which has bearings near its ends in the disks B, as seen in Fig. 1. The pinions or gears are loosely mounted upon the crank-shaft and are yieldingly held into engagement with the pins passed through the ends of the shaft by the springs *e*, so that when the machine is pushed forward the pinions will be locked to the shaft by their clutch-faces and operate the cutting apparatus; but when the machine is run backward the springs will allow the inclined clutch-faces to slide past and out of engagement with the pins in the crank-shaft without operating the cutting apparatus. These cog-wheels are removably held to their shaft, as seen in Fig. 3. The crank-shaft carries a fly-wheel F', as seen in Figs. 1 and 2, to regulate the movement of the parts.

G is the knife-bar, formed with rearwardly-extending arms or lugs *f*, which are secured to the inner faces of the end disks, as seen in Figs. 1 and 2, and with a central rearward enlargement *g*, which serves as a support for one end of the vertical bar hereinafter described. This knife-bar is formed with a shoulder *h*, which serves to guide the cutter-bar and keep it in a straight line during its movement. The knife-bar is provided at each end with a roller *i*, adapted to travel upon the ground, as shown in Fig. 2, and raise the knife-bars slightly from contact with the ground.

H is the cutter-bar, adapted to reciprocate over the knife-bar, and it is formed with longitudinal slots *j*, which receive the pins *k* on the knife-bar, as seen in Fig. 1.

I is a guard removably secured over the cutter-bar, as shown in Figs. 1 and 2.

J is a pitman connected at one end to the crank of the crank-shaft, as shown, and at its other end bifurcated; or the pitman may be formed of two parts connected together, as shown in Fig. 2, and adapted to receive the ball *l* on the end of the horizontal arm L to form a ball-and-socket joint, the said arm L being carried by the vertical rod M, which is provided at each end with a pintle *n*, the upper one being held in the transverse rod or bar A and the lower one in the central rearward enlargement of the knife-bar, as shown. Near its lower end this vertical rod carries a horizontal arm N, which is bifurcated and en-

gages a vertical pin *o* on the cutter-bar, a shown in Fig. 1.

The operation will be readily understood. As the machine is moved along the revolution 5 of the wheels imparts motion to the crank-shaft and it, through the medium of the mechanism above described, gives a reciprocatory movement to the cutter-bar. There is very little friction between the parts, and the grass 10 can be cut with little power.

P are curved bars secured to the inner faces of the end disks and at their outer ends formed with curved slots *p*, between which the handle *Q* is held, being pivoted at its end on the 15 pivot *r* and adjustably held by means of the binding-screw *R*, which passes through the said curved slots, as seen best in Fig. 2. By loosening the screw the handle may be adjusted to suit the wishes of the operator and

held in its adjusted position by tightening the 20 screw.

What I claim as new is—

The combination, with the end disks and the rod connecting them, of the crank-shaft actuated from the wheels, the cutter-bar, and 25 the pivotal connections, consisting of the vertical rod having the lower forked horizontal arm *N*, the pintles, and upper horizontal arm *L*, with ball *l* and the pitman *J*, substantially as described, between said vertical rod and 30 the cutter-bar and crank-shaft, as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDWIN N. FOX.

Witnesses:

JAS. W. DAVIDSON,
JOHN R. BRUN.