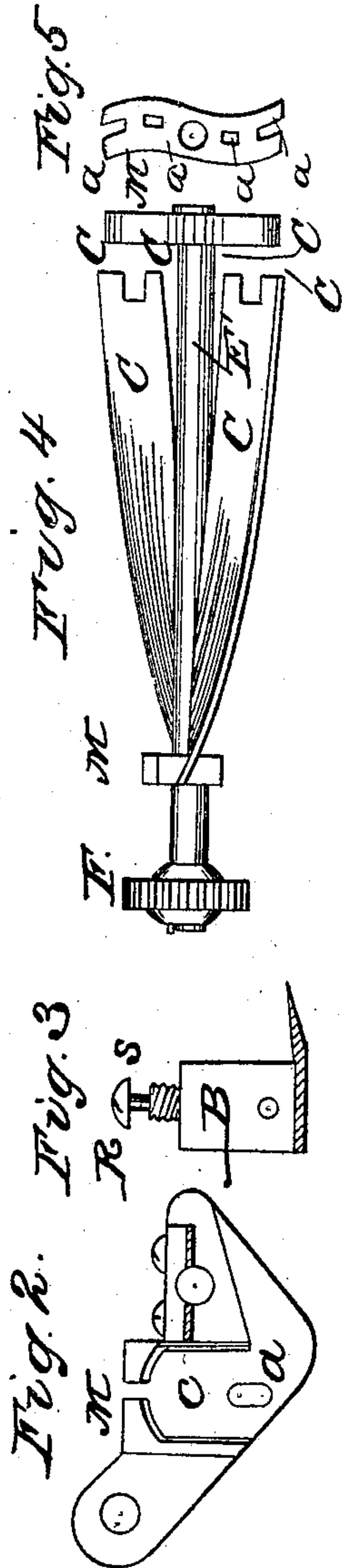
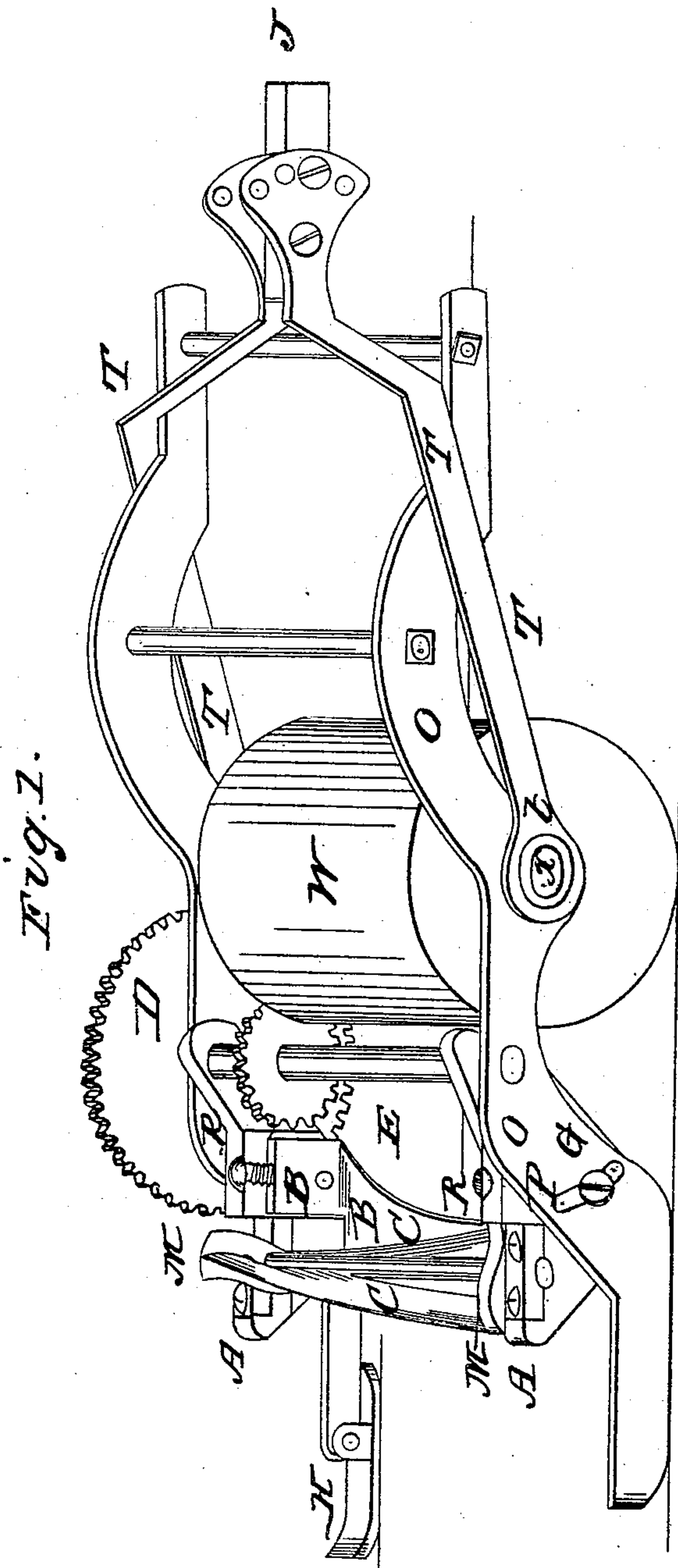


N. EATON.
Lawn Mower.

No. 102,101.

Patented April 19, 1870.



Witnesses
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Letters Patent No. 102,101, dated April 19, 1870.

IMPROVEMENT IN LAWN-MOWERS.

The Schedule referred to in these Letters Patent and making part of the same.

I, NORMAN EATON, of Woburn, in the State of Massachusetts, have invented certain Improvements in Lawn-Mowers, of which the following is a specification.

The nature of my improvements consists in a simple and effective device in a lawn-mowing machine, that cuts the grass with a stationary and a rotary knife, for firmly securing the stationary knife at any required distance from the revolving knife, and both knives securely to the main frame of the machine, at any required distance from the ground.

The invention also consists in the combination of an adjustable handle, with a loose bail.

The peculiar manner of constructing the cutting arrangement, a rotary knife acting with a stationary knife, as shown in the specification, is not my invention, or the manner represented in the specification for driving the rotary knife, or an auxiliary frame to support a rotary and a stationary knife.

Figure 1 in the drawings represents a perspective view of the machine.

Figure 2 represents an inside view of one of the sides of the auxiliary frame. This figure also represents a spring under the cover of the box that holds the shaft of the revolving cutters. This spring is intended to keep the cover up, and, as the journal wears away, this cover may be screwed down onto the shaft, so that the shaft will always be a nice fit. If the shaft of the cutters has much play in its bearings, it will not act well with the stationary knife.

Figure 3 represents an end and sectional view of the stationary knife.

Figure 4 represents a front view of the revolving cutters, with one of the supports of the revolving blades slipped off on the shaft E'.

Figure 5 represents a side view of one of the supports of the revolving blades.

In fig. 1—

A is the auxiliary frame that carries the knives. This frame holds the stationary knife B and the revolving knife C, and is hung to the shaft E, that carries the gear D, and this gear carries the pinion F, shown in fig. 4, on the shaft of the revolving cutters, so that the pinion F of the revolving cutters will work equally well with gear D raised or lowered, as this pinion swings with the auxiliary frame around the center of D when the knives are raised or lowered, the pinion F always being the same distance from the center of gear D.

The auxiliary frame A is secured to the main frame O by set-screw G.

This set-screw passes through the slot *p* in main frame O.

This slot allows the screw G to swing around shaft E, with auxiliary frame A, when the knives are raised or lowered.

This set-screw also passes through a slot in the auxiliary frame, represented at *a* in fig. 2, (the use of this slot will be explained hereafter,) and is screwed into stationary knife B.

When the auxiliary frame has been raised or lowered to a desired height, the set-screw G is to be turned. This brings the stationary knife and main frame nearer together, and hugs the auxiliary frame firmly and tightly between them.

The stationary knife B is secured and held rigidly by set-screw G, set-screw R, and the recess in the auxiliary frame, represented in fig. 2, at *c*.

When the knives get dull or worn apart, the edge of the stationary knife may be brought nearer to the edges of the revolving knives by loosening the set-screw G, and turning the set-screw R. This latter screw has a neck, *s*, cut just under its head, represented in fig. 3.

This neck fits into a slot, *u*, in the auxiliary frame A, represented in fig. 2.

When this screw is turned, the shoulders of the neck push against the auxiliary frame, and this draws up or pushes down the stationary knife B.

When this stationary knife B is drawn up or pushed down in the auxiliary frame A, the screw G is drawn up or pushed down with it, and the slot *a*, represented in fig. 2, allows this screw G to have a clear way, when it is drawn up or pushed down, as just described.

This set-screw G has also to pass diagonally across slot *p* in the main frame, and this slot should be made wide enough to allow it to do so.

The bail T is attached to a thimble or guard, *t*, directly around the arbor X of the main roller W. The object of this guard is to prevent friction.

When the bail is attached either in front of the arbor of the main roller or behind it, as it usually is in this style of lawn-mowers, the machine will wiggle, and the attachment of the bail to the main frame will work loose, and the bail thus attached either force the knives to the ground or lift them from it.

In the way represented by the drawings of attaching the bail to the main frame, the operator can easily prevent any side movement or wiggle of the machine, as can be clearly understood by the drawings.

The handle J is made adjustable in the bail T, so that the front part of the machine may be tipped up, while carrying the machine from place to place when

it is not in operation, to keep the knives out of the dirt.

The shoe H is hung by a pivot to the front part of the main frame, so that it may be rocked up and down, to adjust itself to uneven surfaces.

The blades C C, represented in figs. 1 and 4, of the revolving knife C C have projections *b b* on their ends.

These projection fit into slots *a a* in their supports M, and are fastened in by keys. This makes a rigid knife, and a cheap way of constructing it.

The central shaft E' of the revolving cutters may be dispensed with. In this case the bearings are cast on the supports M.

Having described my invention,
What I claim as new is—

1. The combination of the stationary knife B, adjustable in recess *c u* of the auxiliary frame, and the adjusting-screw R, all constructed and arranged substantially as described.

2. The arrangement of the main frame O, having slot *p*, the auxiliary frame A, having recess *c u*, and slot *a*, the knife B, and screws R and G, all constructed and operating substantially as described.

3. In combination with the loose bail, the adjusting arrangement for the handle, when arranged as set forth, and when used for the purpose described.

NORMAN EATON.

Witnesses:

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