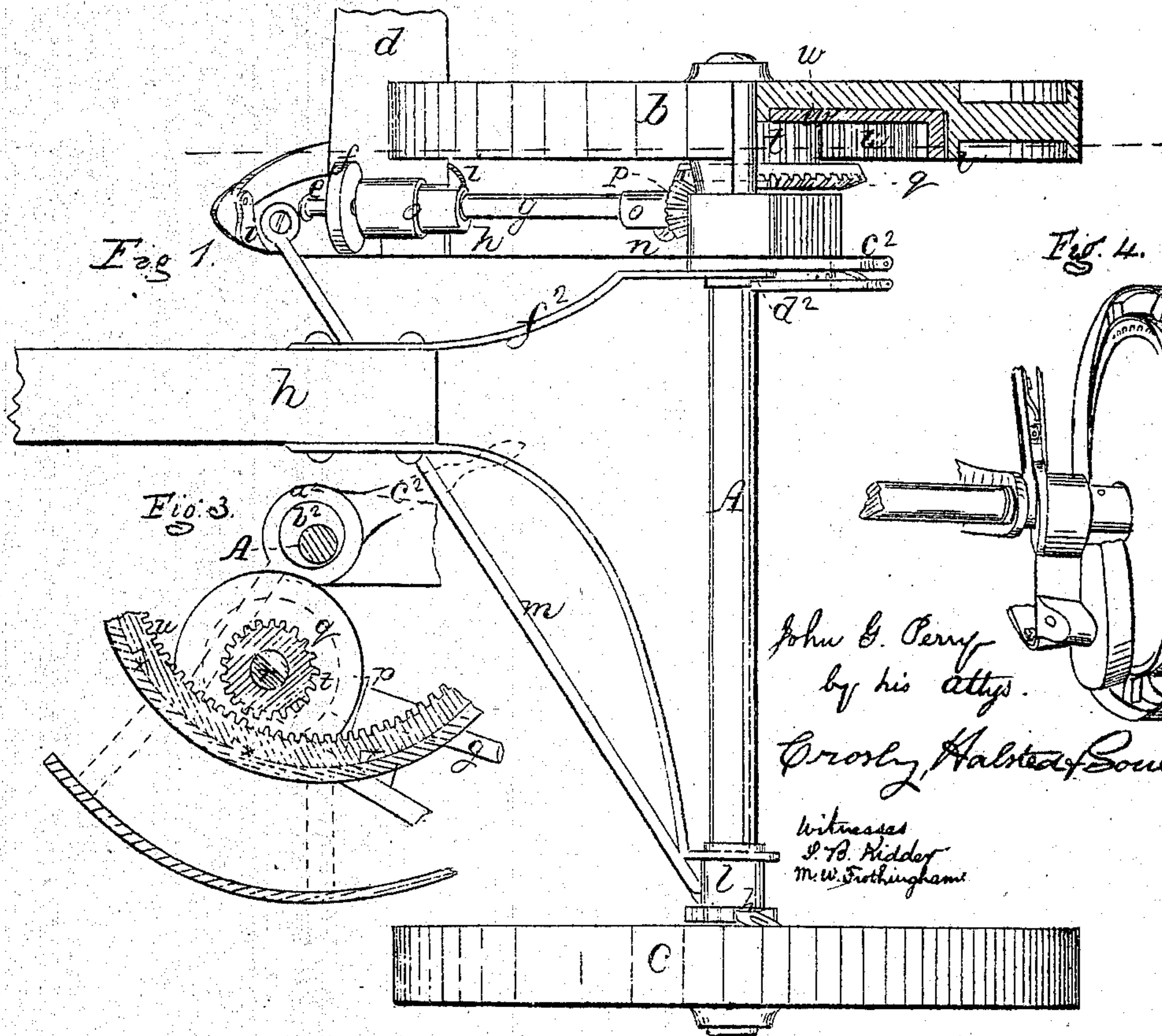
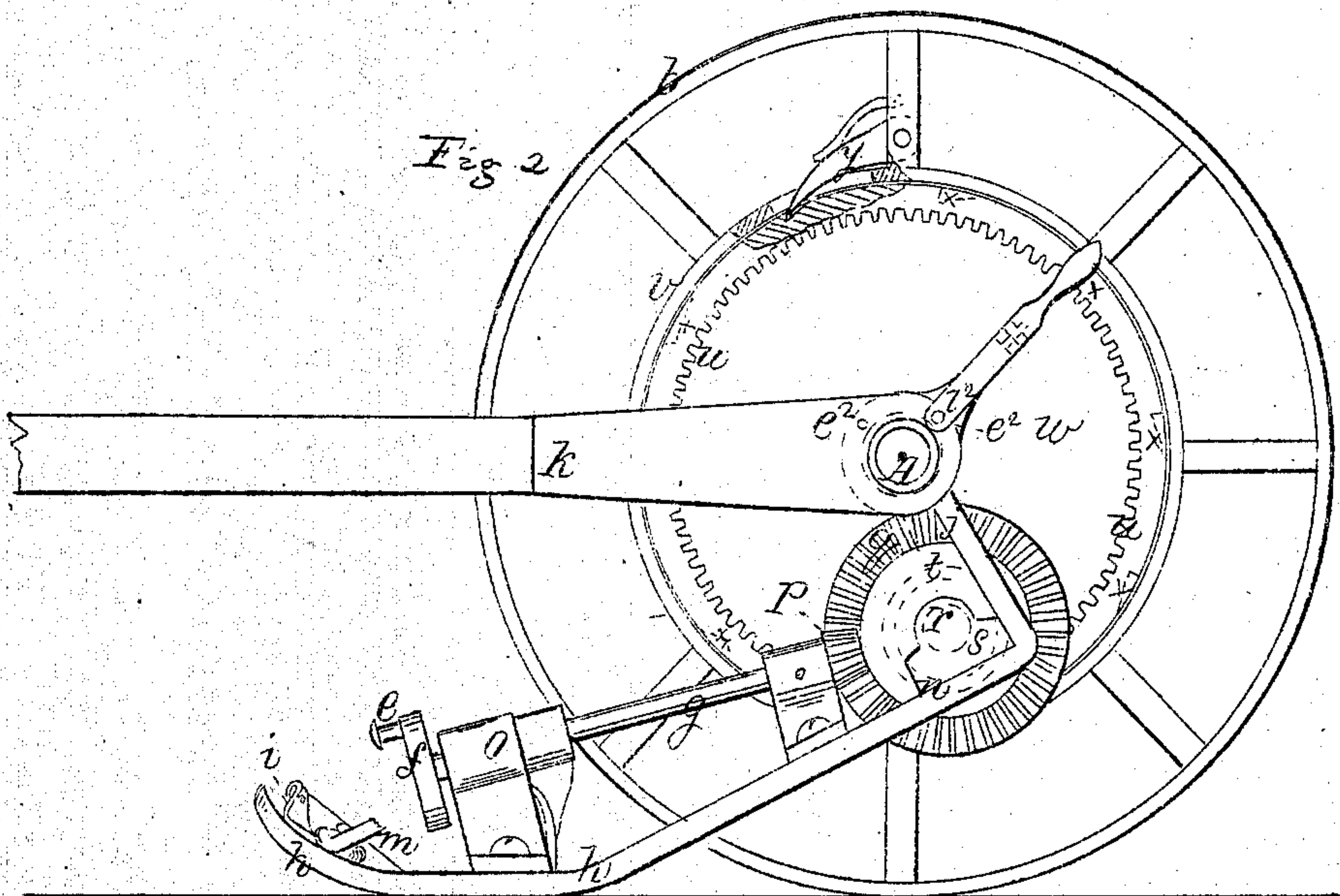


# J. G. Perry, Mower

No 104,490.

Patented June 21, 1870.





# UNITED STATES PATENT OFFICE.

JOHN G. PERRY, OF KINGSTON, RHODE ISLAND.

## IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 104,490, dated June 21, 1870.

*To all whom it may concern:*

Be it known that I, JOHN G. PERRY, of Kingston, in the county of Washington and State of Rhode Island, have invented Improvements in Reapers and Mowers or Grass and Grain Harvesters; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My present invention relates particularly to the construction of that class of mowers and reapers in which the cutter-bar is driven by the rotation either of both or of one of the draft-wheels, without the employment of a counter-shaft crossing from wheel to wheel.

My invention consists, primarily, in the peculiar arrangement or organization of the mechanism that connects the crank-shaft that actuates the cutter-bar with the gear-ring of one of the driving-wheels, a secondary improvement consisting in the mechanism, or arrangement of mechanism, for disconnecting the gear-ring from the cutter mechanism operated thereby.

The drawing represents such of the parts of a machine embodying the invention as are directly connected with my improvements.

Figure 1 shows these parts in plan, one wheel being shown half in horizontal central section. Fig. 2 is a sectional elevation of the same. Fig. 3 is a sectional view of the gearing, and Fig. 4 a disk and shield covering the same.

A denotes the main axle, mounted upon the two wheels *b c*. *d* denotes the finger-bar, upon which reciprocates the cutter-bar, (not shown,) said cutter-bar being driven by a crank or wrist pin, *e*, on a crank-wheel, *f*, said pin being connected to the cutter-bar by a pitman or other suitable connection.

The crank-wheel is on the end of a shaft, *g*, to which and a shoe, *h*, the finger-bar is hinged by two ears, *i*, so that it can be swung up and tipped over upon the pole *k*.

The shoe *h* extends back from the finger-bar, and is hung at its rear end to the axle A, as seen in Fig. 2, and at its front end is connected to a sleeve, *l*, on the opposite end of the axle, by a link, *m*, as seen in Fig. 1, the rear part of the shoe forming a bearing plate or

frame, *n*, suspended from the axle, for carrying the gearing that connects the cutter-bar shaft *g* with the driving-wheel gearing.

The shaft *g* rotates in suitable bearings *o* on the shoe or hanger-plate *n*, and at the rear end of the shaft is a bevel-pinion, *p*, meshing into and driven by a bevel-wheel, *q*, rotating on or with a short shaft or pin, *r*, stationarily secured or rotating in a bearing, *s*, in the hanger-plate *n*.

On the back side of this bevel-wheel, and preferably formed integral with it, is a spur gear or pinion, *t*, the teeth of which mesh into and are driven by the internal gear-teeth of a gear-ring, *u*, fitting into and revolving in a hub shell or case, *v*, in the wheel, this shell consisting of a web extending radially from the hub to the spokes, and a flange which forms the bearing for the ring, the inner face being covered by a disk, if desirable, thus increasing the gear-ring, and shielding it from entrance of hay, grain, or dirt.

The gear-ring *u* is fixed to a web or disk-wheel, *w*, fixed upon the axle A, and the outer or peripheral surface of the wheel has ratchet-teeth or notches *x*, with which a spring pawl or click, *y*, engages when the machine is moving forward, while at the opposite end of the axle is a ratchet-wheel fixed to the axle, with which engages a spring pawl or click, *z*, so that the rotation of either wheel in a forward direction imparts rotative movement to the gear-ring, the teeth of which drive the pinion *t*, and, through said pinion and the bevel-gearing *p q*, rotates the shaft *g* and reciprocates the cutter-bar.

In "backing," the pawls slip over the ratchet-teeth, and the gear-ring and axle are not rotated.

To disengage the cutter-driving mechanism from the driving-wheels, I hang the bearing-plate *n* to the axle, as follows:

At the top of the arm *j* of the bearing-plate is a ring, *a*<sup>2</sup>, which ring surrounds an eccentric-sleeve, *b*<sup>2</sup>, placed upon and turning freely around the axle A. At one end of this sleeve is a handle, *c*<sup>2</sup>, by turning which the sleeve is turned upon the axle, and the ring *a*<sup>2</sup> is thereby raised or lowered. If the lever be turned to the position shown in Fig. 2, the pinion *t* drops into engagement with the gear-ring *u*;



but if the handle be turned to the position shown in Fig. 3, which denotes a vertical section through a portion of the gear-ring and the axle A, the eccentric raises the bearing-plate  $n$  and the gears supported by it, and carries the pinion out of engagement with the gear-ring, so that though the gear-ring and the axle turn with both or either of the wheels, no working movement is imparted to the rest of the gearing.

The handle  $c^2$  carries a spring latch-pin,  $d^2$ , which, pressing into one of two holes,  $e^2$ , locks the gearing in position.

It will thus be seen that the machine is compact, exceedingly simple and effective, and that the mechanism is easy to manipulate and not liable to derangement.

By adding the scythe, seat, and lever, the machine can be used as a mower, and the cutting apparatus raised or lowered at the will of the driver from the driver's seat, and, by any suitable mechanism, the machine can be changed from a mower to a reaper, at pleasure.

Instead of placing the bevel-wheel below the axle, as shown in the drawing, it may be mounted directly upon the axle and be driven

from the gear by its pinion  $t$ , meshing into an intermediate pinion, which meshes into, and is driven directly by gear-ring  $u$ ; and, instead of arranging the latch-pin  $d^2$  to lock into holes in the pole-brace  $f^2$ , as seen in Fig. 1, it may be arranged as seen in Fig. 4, the holes being made on a flange on the ring, at the top of the hanger-arm  $n$ , in which case the handle  $c^2$  may be used as the lever by which to raise the finger-bar and cutting mechanism.

Having described my improvement in mowers and reapers, I claim—

1. In combination with the gear-ring  $u$ , rigidly fixed to the axle, the cutter-driving mechanism, supported upon the bearing or hanger plate, suspended from the axle A, substantially as shown and described.

2. In combination with the elements of the preceding, the eccentric  $b^2$  and lever  $c^2$ , for throwing the machine in and out of gear, substantially as set forth.

JOHN G. PERRY.

Witnesses:

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