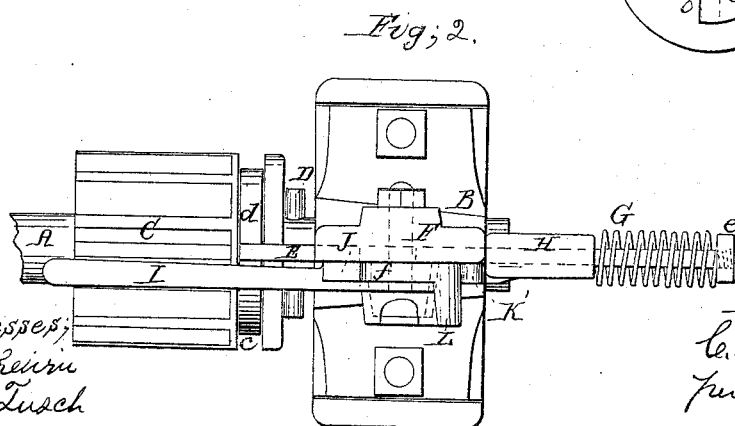
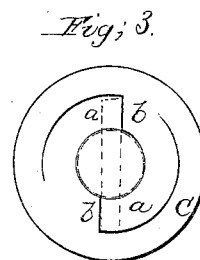
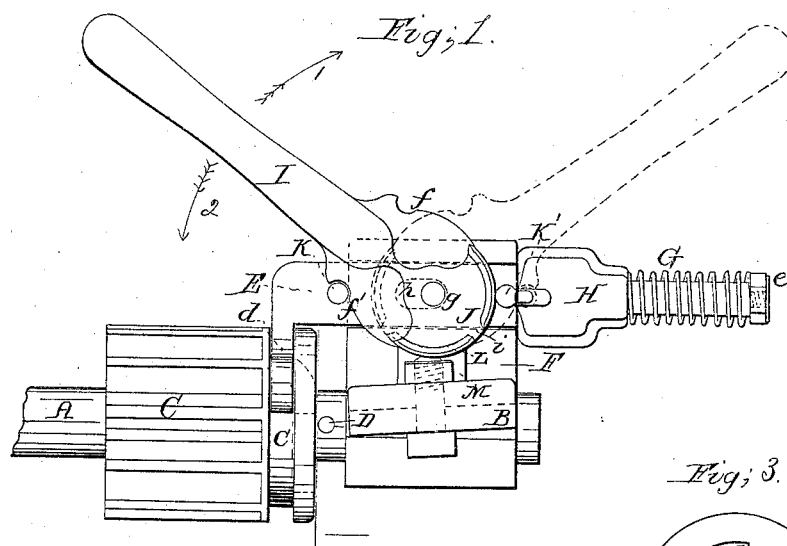


C. D. Rogers,
Machine Gearing,
No. 45,864, Patented Jan. 10, 1865.



Witnesses;
Wm. Brein
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UNITED STATES PATENT OFFICE.

CHARLES D. ROGERS, OF UTICA, NEW YORK.

IMPROVEMENT IN SHIFTING GEAR.

Specification forming part of Letters Patent No. 45,864, dated January 10, 1865.

To all whom it may concern:

Be it known that I, CHARLES D. ROGERS, of Utica, in the county of Oneida and State of New York, have invented a new and useful improvement in means for throwing in and out of gear the driving mechanism of reaping and mowing or other machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, a plan or top view of the same; Fig. 3, a detached end view of a pinion pertaining to the same.

Similar letters of reference indicate like parts.

This invention relates to a means whereby the pinion, which gears into the large spur-wheel of reaping and mowing machines may be moved or adjusted so as to render the long or crank shaft, and consequently the sickle, operative and inoperative, as desired.

The object of the invention is to obtain a means for the purpose specified which will operate without subjecting any of the working parts to undue strain, jars, or concussions, and one which will be self-locking and simple in its construction and arrangement.

A represents the long or crank shaft of a reaping or mowing machine, which communicates a reciprocating motion to the sickle. B is the bearing of said shaft, and C is a pinion placed loosely upon it, so that it may slide thereon. This pinion is provided at one end with two recesses, *a a*, beveled at one end. These recesses form two shoulders, *b b*, for the ends of a pin, D, to bear against, said pin passing transversely through the shaft B, and being fixed within it.

The pinion C has a groove, *c*, made circumferentially in it to receive the fork *d* of a slide, E. This slide is fitted and works horizontally in a groove made in an upright, F, on the bearing B, and the end of said slide, opposite to that which is provided with the fork *d*, has a nut, *e*, upon it for a spiral spring, G, to bear against, the opposite end of said spring bearing against a sleeve, H, on the slide E,

the former being allowed to work or move freely on the latter.

I is a lever which has an eccentric or cam, J, at its lower end, provided with two notches, *f f'*, at opposite sides. This lever works on a bolt, *g*, which passes through the cam J and upright F, said bolt also passing through an oblong slot, *h*, in the slide, as indicated by the dotted lines.

The slide E has a pin, K, projecting from one side of it, adjoining the cam J, and a similar pin, K', projects from the sleeve H at one end of it.

The lower part of the cam J is provided with a flange, L, having a slot, *i*, in it. This flange L projects from the cam at right angles, and said flange works over a box, M, on the bearing B, through which box oil or other lubricating material is supplied to the shaft A. This flange L serves as a cover for the box M, preventing the admission of dust and dirt, and the shaft A may be lubricated at any time by moving the lever I, so as to bring the slot *i* over the box M.

The pinion C gears into the large spur-wheel of the machine, and when said pinion is connected with the shaft A motion is communicated to said shaft. The pinion C is moved on the shaft A by actuating the lever I, the cam J acting against the pins K K'. In order to throw the pinion C in gear with the shaft A, the lever I is turned or moved in the direction indicated by the arrow 1, the cam J bearing against the pin K' and actuating the sleeve H, which operates or moves the slide E through the medium of the spring G. By this means the pinion C, when thus moved, is allowed to yield or give. The movement is not a positive one, and the pin D can slip into the recesses *a a*, so as to engage the pinion C with shaft A without causing any undue wear, jars, or concussions hitherto attending the throwing in and out of gear of said pinion with the shaft on which it is placed.

In throwing the pinion C out of gear with the pin D the lever I is moved or turned in the direction indicated by the arrow 2, and the cam J acts against the pin K and directly against the slide E. When the lever I is moved so as to throw the pinion C in gear with the shaft A, the lever is held in conse-

quence of the pin K' of sleeve H fitting in the notch *f* of the cam J, and when said lever is moved in the opposite direction to throw the pinion C out of gear with the shaft A the pin K fits in the notch *f'* of cam J.

The oblong slot *h* in the slide E, through which the bolt *g* passes, admits of the requisite degree of longitudinal play of the slide.

For the purpose of illustration I have described my invention as adapted for application to reaping and mowing machines. The invention is not, however, necessarily confined thereto, but may be applied to various other machinery in which the driving mechanism is required to be connected or disconnected at will.

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

1. The lever I, with cam J attached, pro-

vided with two notches, *f f'*, in combination with the slide E, connected with the pinion C and provided with the pin K, and the sleeve H, provided with the pin K', and arranged with the spiral spring G, all arranged to operate in the manner substantially as and for the purpose specified.

2. The lever I and cam J, in combination with the slide E, provided with two pins, K K', either or both being fixed or movable, when said pins are arranged so as to engage with or lock into the notches *f f'*, as set forth.

3. The flange L, provided with the slot *i*, when arranged in relation with the box M, substantially as and for the purpose specified.

CHAS. D. ROGERS.

Witnesses:

LEWIS ROGERS,

CHAS. A. SWAN.