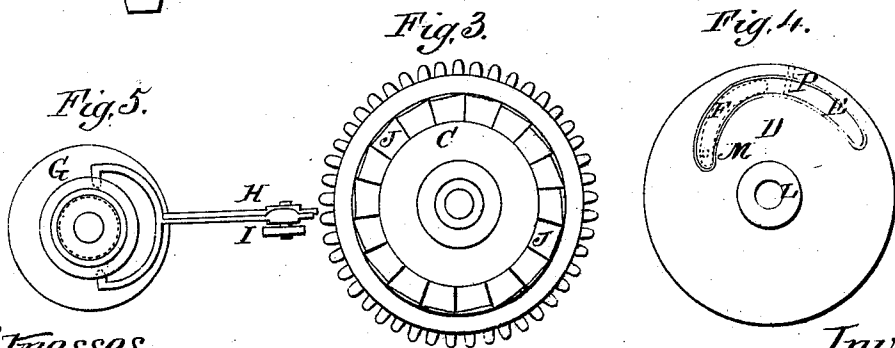
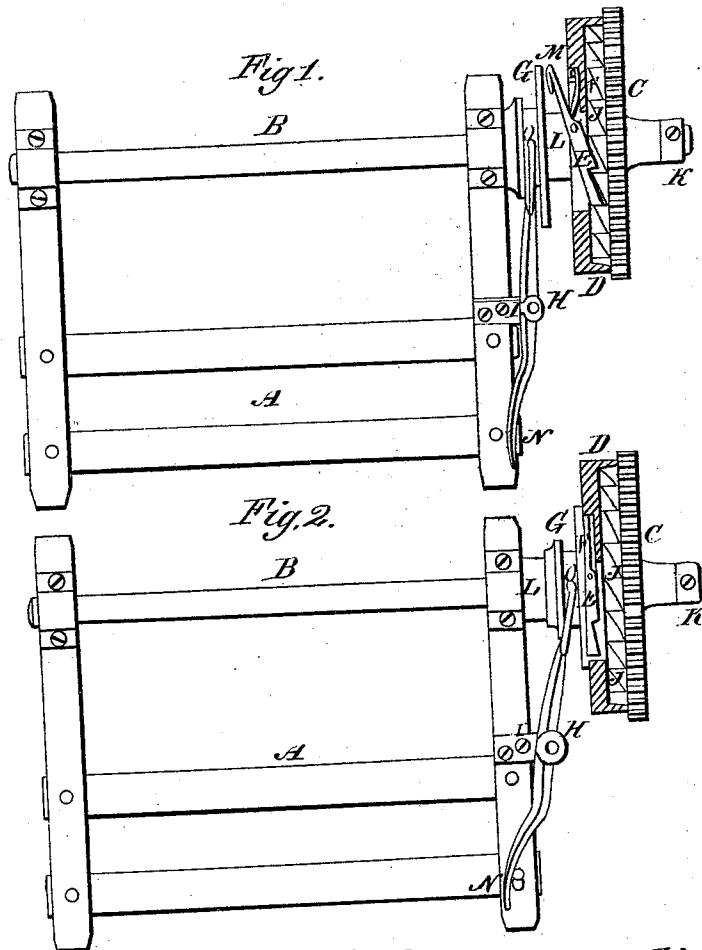


*M. D. Myers.*

*Ratchet and Pawl Machine.*

*N<sup>o</sup> 100,315.*

*Patented Mar. 1, 1870.*



*Witnesses:*  
*W. J. Piper.*  
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# United States Patent Office.

M. D. MYERS, OF FRANKFORT, NEW YORK.

Letters Patent No. 100,315, dated March 1, 1870.

## IMPROVEMENT IN RATCHET AND PAWL MECHANISM.

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

### To all whom it may concern:

Be it known that I, M. D. MYERS, of Frankfort, in the county of Herkimer, and State of New York, have invented new and useful Improvements in Ratchet and Pawl Mechanism; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Similar letters indicate the same devices in all the figures.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a view of my improvements, showing the pawl in engagement with the ratchets, also showing the loose collar or flange moved sufficiently distant from the projecting arm of the pawl to allow its free operation on the ratchets.

Figure 2 is a view showing the loose collar forced against the projecting arm of the pawl, causing the pawl to fold in its slot and out of engagement with the ratchets.

Figure 3 is a view of my wheel with its ratchets attached.

Figure 4 is a view of bonnet or shield, showing the pawl attached thereto.

Figure 5 is a view showing the loose collar or flange with the forked shipping-lever attached.

A, the frame.

B, the shaft.

C, the wheel.

D, the bonnet or shield.

E, the pawl.

F, the spring.

G, the loose collar or flange.

H, the lever.

I, the fulcrum of lever H.

J, the ratchets attached to wheel C.

K, the collar for holding wheel C in position.

L, the hub of shield D.

M, the projection or projecting arm of pawl E.

N, the handle of the lever H.

O, the groove in the loose collar or flange for the reception of the forked end of the lever H.

I construct my ratchet and pawl mechanism as follows:

I cast the bonnet or shield D with a long straight hub on one side, and a circular slot near the outer edge of the shield for the reception of the pawl E and its spring F. A piece of metal is forged to the proper shape and size for the pawl E, and fitted loosely in the slot, and a hole is drilled through the circular side of the pawl about equidistant from each end, and a hole of somewhat smaller size drilled through the shield outside of the slot and a short distance into that portion of the shield inside of the slot. A spring, F, is

then secured in one end of the slot, when the pawl E is placed in its position and a pin, P, inserted in the holes drilled in the shield and through the hole drilled in the pawl, and the pin secured so that it shall not drop out. A collar or flange, G, is then bored out to fit loosely on the hub L, and a groove turned in it, as shown at O. The collar is then placed on the hub L of the shield D, and the shield secured to the shaft B, which has previously been turned in a lathe to the proper size and placed in its boxes where it is to revolve.

I next construct a wheel, C, with ratchets J J on one side of the wheel, the ratchets being placed circular and equidistant from the center of the wheel, said wheel also having a short hub on the ratchet side for the purpose of keeping the ratchets from coming in contact with the inner portion of the shield D. A collar, K, is next fitted on the shaft, and secured next to the outer hub of the wheel C for the purpose of keeping the wheel C from slipping lengthwise of the shaft.

The pawl E being operated upon by the spring F is brought into engagement with the ratchets J J, as shown in fig. 1. While the pawl E is in engagement with the ratchets J J, fig. 1, if the wheel C should be caused to revolve forward or in a direction with the straight sides of the ratchets toward the end of the pawl E, the shield D would be caused to revolve with the wheel C, revolving with it the shaft B and whatever machinery may be attached to it, while, with a reversed motion of the wheel C, the pawl E drags over the inclinations of the ratchets J J, and the shaft B with its machinery remains in a state of rest in relation to the wheel C.

By applying power to the shaft B in a direction toward the straight side of the ratchets J J, the wheel C will be caused to revolve with it; while a reversed motion of the shaft B will allow the wheel C to remain in a state of rest in relation to the shaft B.

In mowing-machines, reaping-machines, hay-spreaders, and other machinery having two driving-wheels operating on one and the same shaft, it becomes necessary that ratchet and pawl mechanisms should be attached to each of the driving-wheels, or to some other portion of the machinery, in order that, in turning corners or angles where one of the driving-wheels revolves with a greater rate of speed than the other, the swifter revolving wheel will propel the machinery, while the pawl on the opposite wheel is caused to drag over the inclinations of the ratchets coming in contact with it, thus avoiding undue straining of the machinery by the dragging of one of the driving-wheels. It often becomes a matter of great convenience in moving a machine from one location to another, to throw the machinery "out of gear."

In my ratchet and pawl mechanism this is easily

accomplished by adding to the devices already mentioned the forked lever H, with its fulcrum at I, the forked portion of the lever acting in the groove O of the collar G.

When it is desired to throw the pawl E out of engagement with the ratchets J J, the hand or foot of the operator is placed upon the lever at N, drawing it toward the frame, which throws the forked end of the lever outward, carrying with it the loose collar or flange, which is forced against the end of the pawl projecting outside of the shield D, which causes both ends of the pawl to close flush in the mortise in the shield, thus throwing the pawl out of engagement with the ratchets, which allows the wheel C to revolve freely on its axis without revolving the machinery. This is all accomplished without the necessity of the operator descending from his machine to secure the pawls out of engagement with the ratchets, as by the old method.

I do not claim a ratchet-wheel and pawl as my invention; but

What I do claim, and wish secured to me by Letters Patent of the United States, is—

1. The pawl E, with its projecting arm M and spring F, in combination with the ratchets J J, as shown and described.

2. The loose collar G or its equivalent, in combination with the shield D and lever H, as and for the purpose herein described.

3. The combination of the pawl E with its projecting arm M, spring F, the loose collar or its equivalent, and lever H, all made, arranged, and operating substantially as herein shown and described.

M. D. MYERS.

Witnesses:

W. J. PIPER,  
GEO. W. GATES.