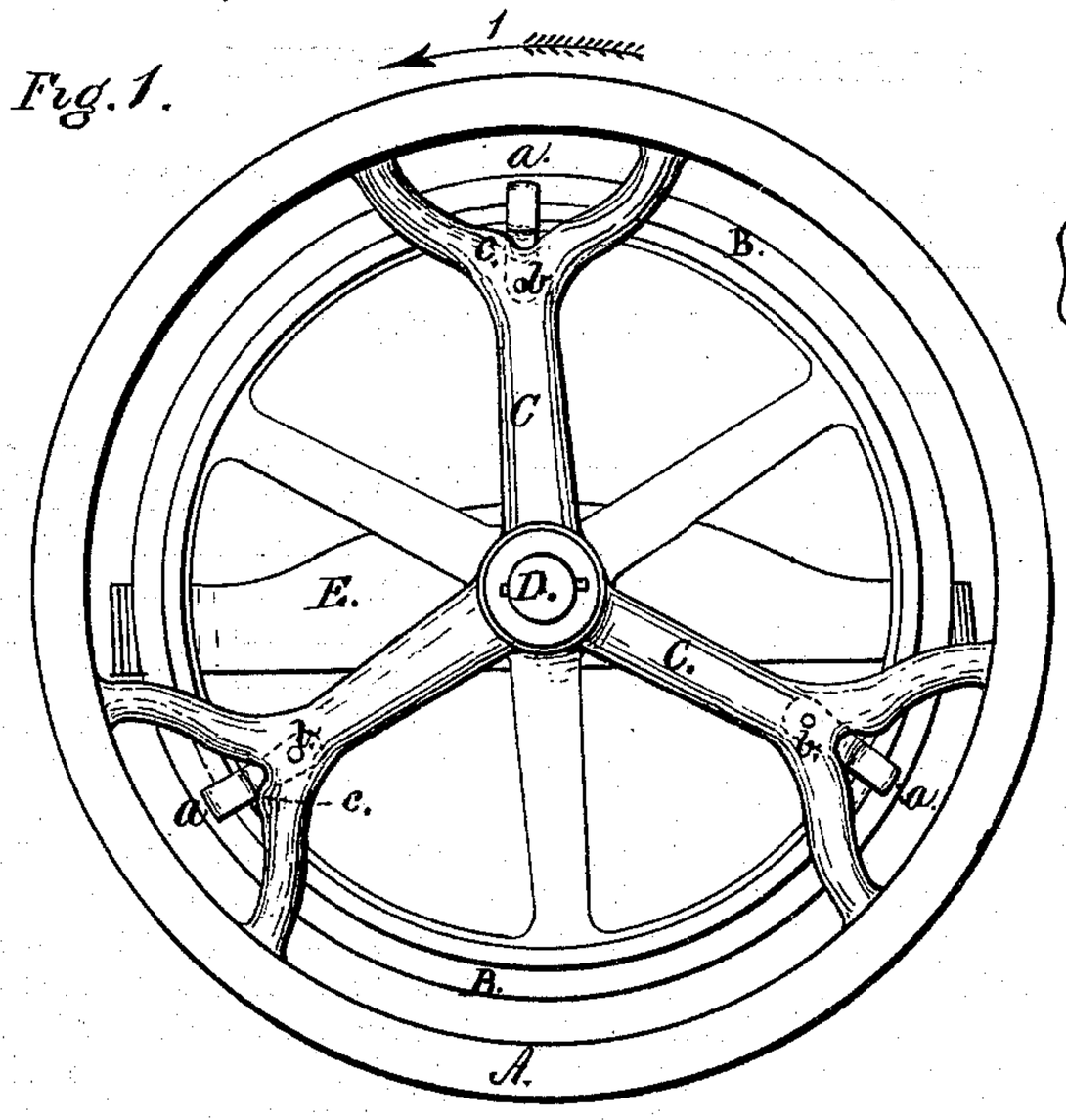
GEORGE S. REYNOLDS.

Improvement in Friction Clutches for Mowing Machines.

No. 125,409. Patented April 9, 1872.

Fig. 1.



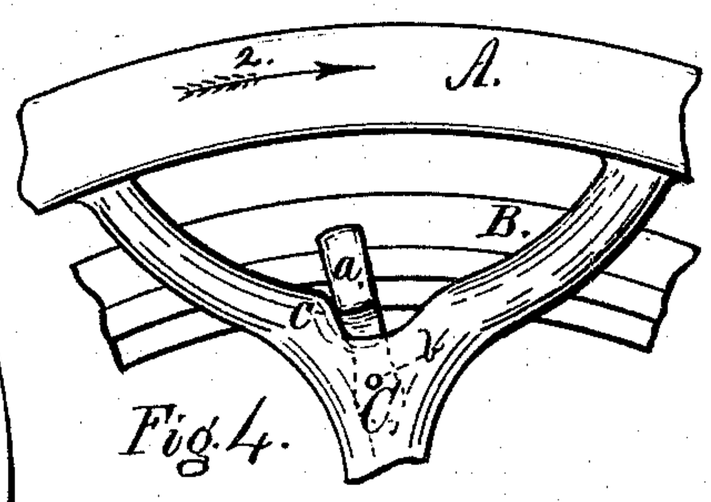


Fig. 4.

Fig. 2.

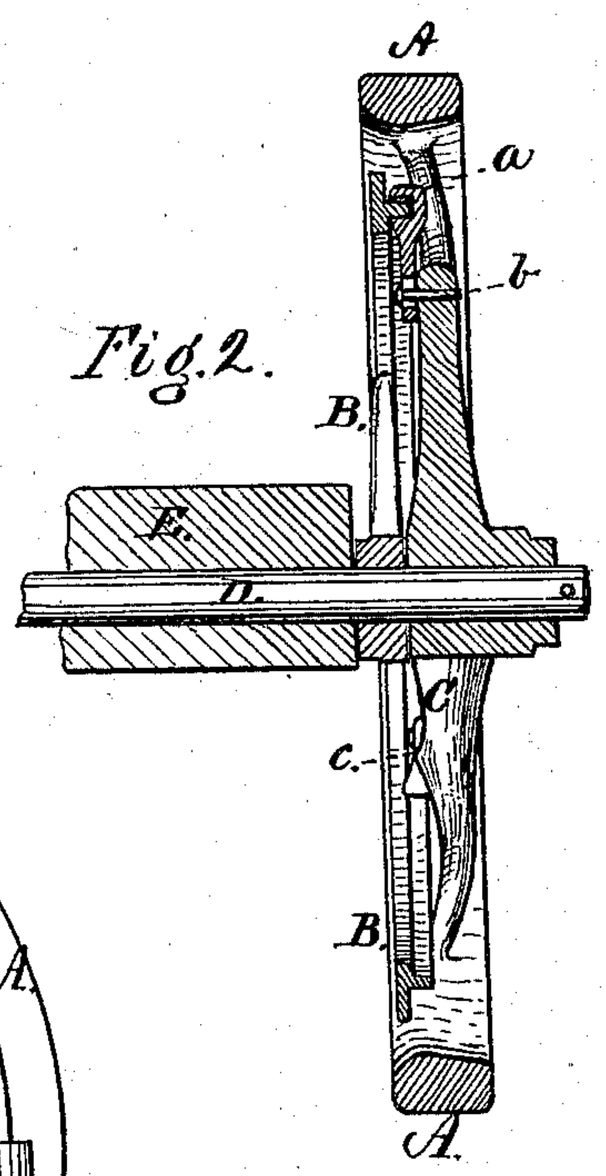
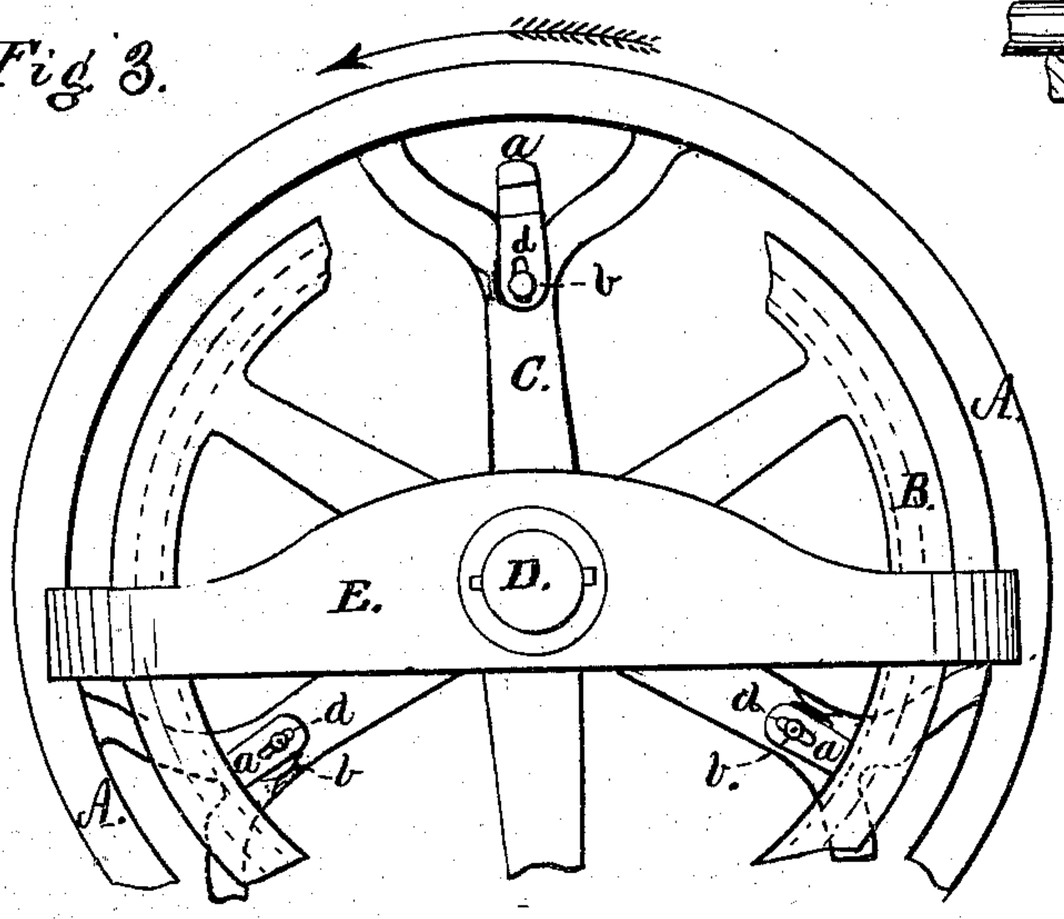


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE S. REYNOLDS, OF LEBANON, NEW HAMPSHIRE.

IMPROVEMENT IN FRICTION-CLUTCHES FOR MOWING-MACHINES.

Specification forming part of Letters Patent No. 125,409, dated April 9, 1872.

Specification describing certain Improvements in Friction-Clutches for Mowing-Machines, invented by GEORGE S. REYNOLDS, of Lebanon, in the county of Grafton and State of New Hampshire.

My invention is designed as an improvement upon the Letters Patent granted me April 11, 1871, No. 113,566; and it relates to a novel friction-clutch to be used upon mowing-machines; it has for its object to take the place of a pawl-and-ratchet connection ordinarily used between the driving-wheel and driving-axle. The invention consists in the employment of a series of slotted pawls having grooved faces, which fit a projecting rim or flange upon the wheel they impart motion to.

Figure 1 is a view of the face of one of the driving-wheels and the clutches connected with it. Fig. 2 is a transverse section through the center of the same. Fig. 3 is a view of a portion of the wheel taken from the opposite side to that shown in Fig. 1. Fig. 4 is an enlarged view in detail of one of the clutches and the stop on the arm of the wheel.

General Description.

In my patent No. 113,566 I used a single clutch, controlled in its action by a spring; but this spring was liable to be deranged, either by clogging with dirt or grass, or becoming gummed with oil, or broken, so that the clutch would not operate. My present invention entirely obviates this difficulty.

In the accompanying drawing, A represents one of the wheels of a mowing or reaping machine, hung loose on the axle D. B is a wheel secured upon the axle D, and formed with a projecting flange on the side, with which the clutches *a a* engage. These clutches are pivoted to the arms C of the wheel A by the pins *b*, and are slotted at *d*, where the pins pass through them in order to allow sufficient play longitudinally to compensate for the wear of the grooves in their faces or the flange on the wheel B. E is a portion of the frame of the machine in which the axle has its bearings. The wheel A, in turning forward in the direction of the arrow 1, causes the clutches *a* to turn on the pins *b* and occupy an inclined position with reference to the flange on the wheel B, in such manner that the grooves in the faces of the clutches will not be concentric with the flange, but will bite upon and grasp it, and thus cause the wheel B and the axle D to turn with the wheel A. But the movement of the wheel A in a backward direction (as indicated by the arrow 2, Fig. 4) releases the clutches, as the movement of the clutches on their pivots is arrested as they strike against the stops *c* on the arms C, and the grooves are held in a position concentric with the flange of the wheel B. This causes the clutches to slip loosely upon the wheel and prevents any motion being given to the driving-axle D.

By this arrangement the griping of the wheel by some one or all of the clutches is made a certainty, and the expense of the springs and other attachments is saved.

In turning the machine, also, either to the right or the left, the wheel on the outside of the circle instantly gives motion to the cutting mechanism as soon as the machine starts.

Claims.

1. The employment and use of a series of friction-clutches, *a a*, upon the flange of a driving-wheel of a mowing-machine, constructed and operating substantially in the manner described and specified.

2. The stops *c* upon the arms of the wheel A, in combination with the clutches *a*, for holding the clutches in position for the free movement of the driving-wheel in the reverse direction, as described and specified.

GEORGE S. REYNOLDS.

Witnesses:
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