No. 710,131. Patented Sept. 30, 1902.

# F. L. ADAMS.

## LAWN MOWER.

(Application filed Jan. 3, 1902.)

(No Model.)

Fig. 1.

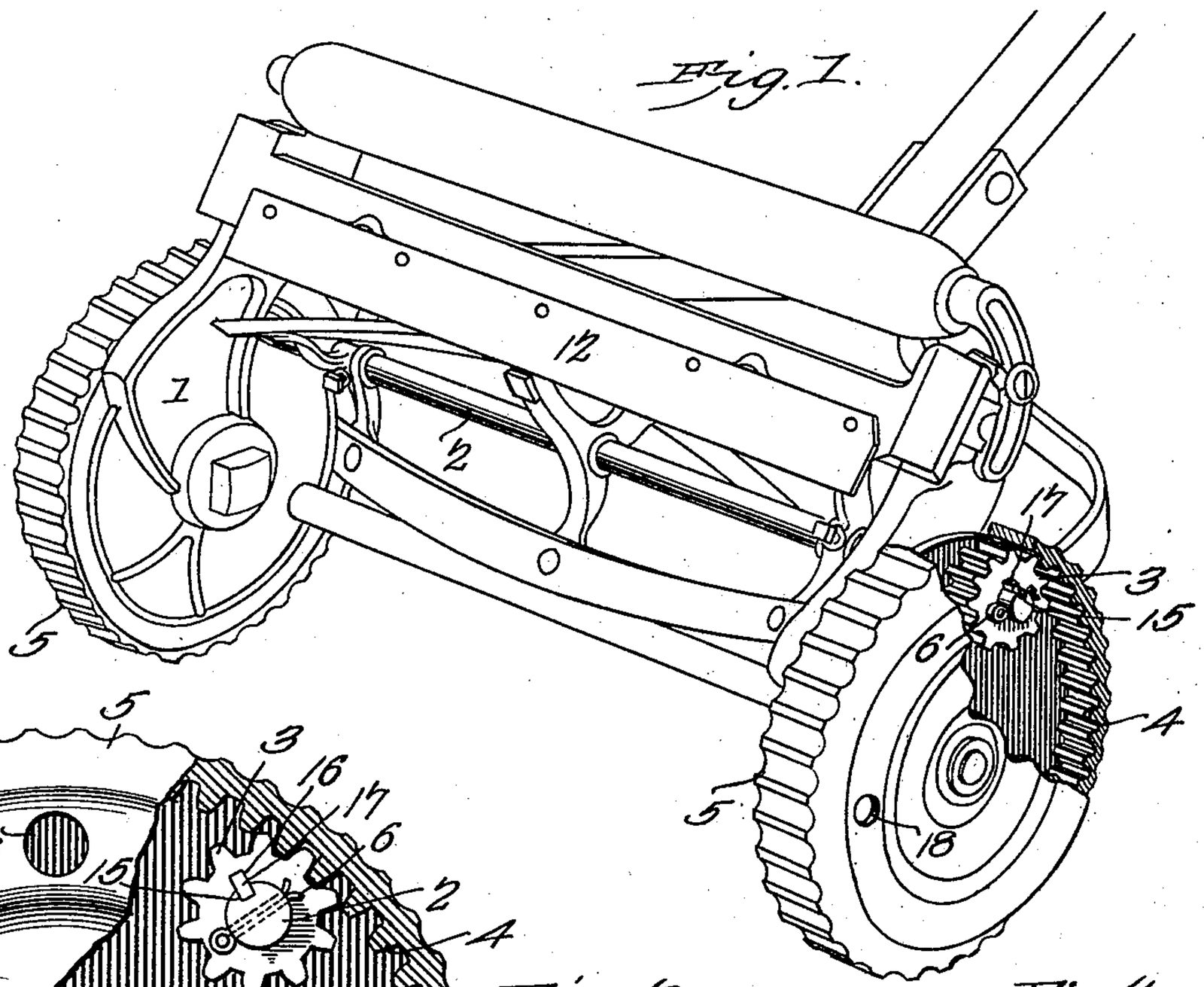



Fig. 2.

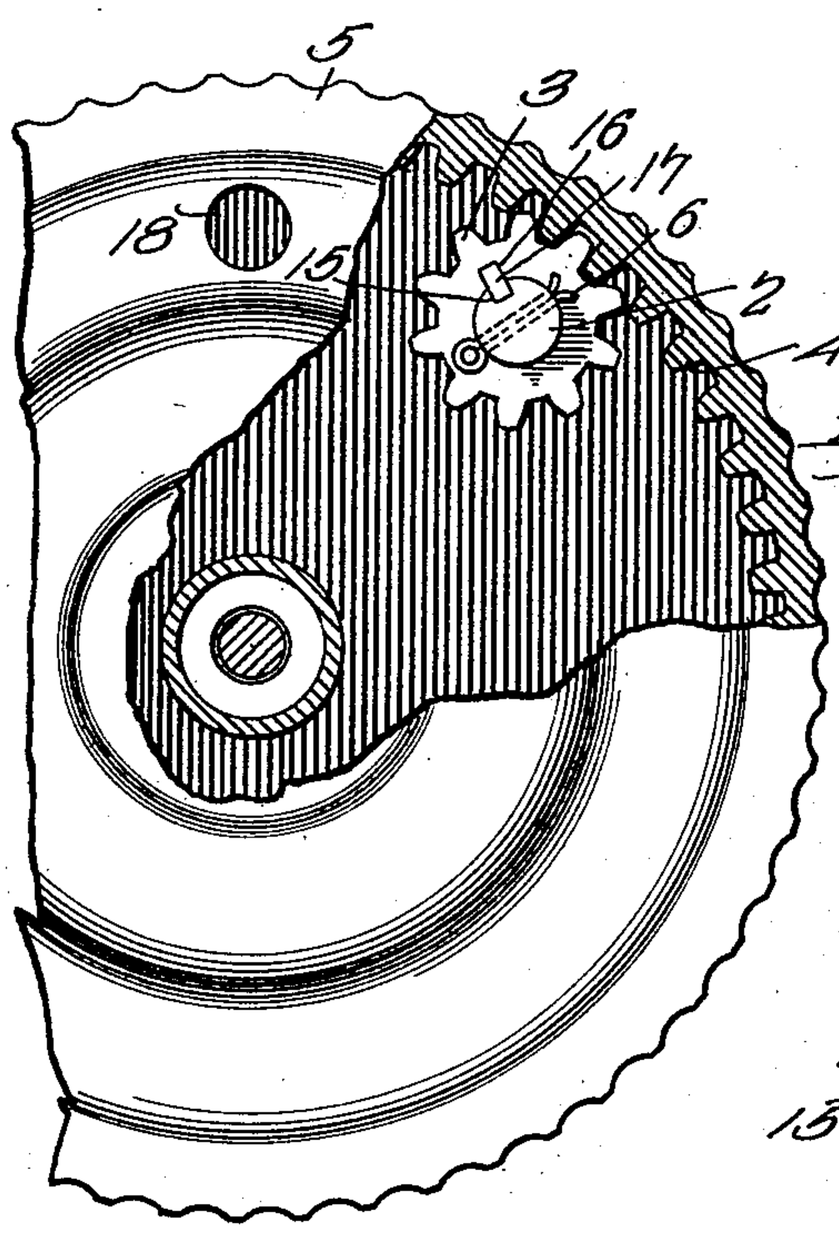



Fig. 4.

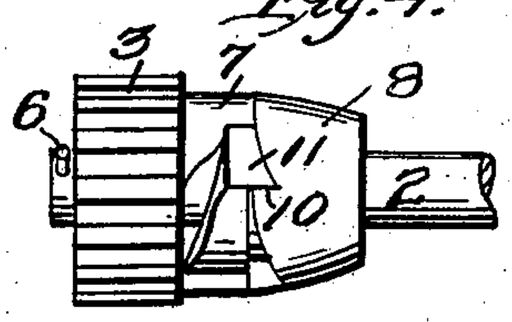
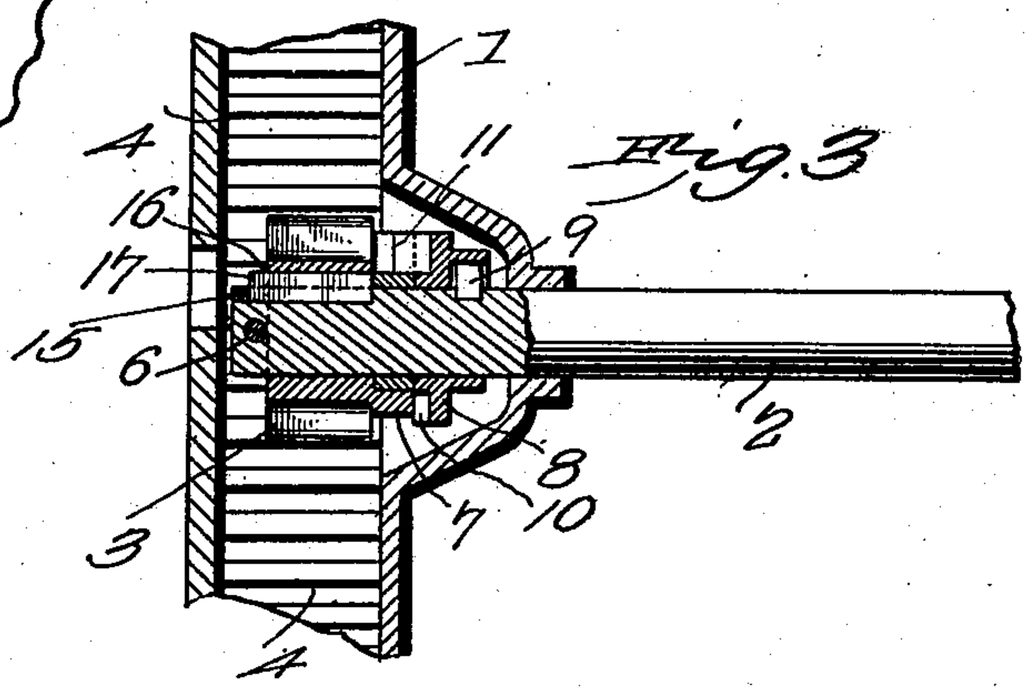



Fig. 3.

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# UNITED STATES PATENT OFFICE.

FRED L. ADAMS, OF PROPHETSTOWN, ILLINOIS.

## LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 710,131, dated September 30, 1902.

Application filed January 3, 1902. Serial No. 88,322. (No model.)

*To all whom it may concern:*

Be it known that I, FRED L. ADAMS, a citizen of the United States, residing at Prophetstown, in the county of Whiteside and State of Illinois, have invented a new and useful Lawn-Mower, of which the following is a specification.

My invention relates to certain improvements in lawn-mowers of that class in which a series of rotary knives act against a stationary cutter-bar, and has for its principal object to provide means for facilitating the sharpening of the knives without removing the same from the machine and without the removal or interchanging of any of the parts thereof, as more fully described hereinafter.

In the accompanying drawings, Figure 1 is a perspective view of an ordinary form of lawn-mower in reverse position, illustrating the means employed for effecting the proper movement of the cutting-knives during the sharpening operation. Fig. 2 is an end view of one of the supporting and driving wheels of the machine, a portion of the wheel being broken away to illustrate the end of the reel-shaft and its actuating-pinion. Fig. 3 is a transverse sectional elevation illustrating a portion of the reel-shaft and drive-wheel, together with the reel-shaft pinion and the clutching mechanism for connecting the same to the shaft. Fig. 4 is an elevation of the reel-shaft pinion and its clutching mechanism.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The lawn-mower illustrated is of an ordinary type, comprising a frame having the usual heads 1, forming supporting-bearings for the reel-shaft 2, the ends of which project through the heads and are provided with loose pinions 3 for engagement in internal racks 4, forming part of the drive-wheels 5. The pinions 3 are mounted loosely on the reel-shaft and are held from longitudinal displacement by keys 6. The inner faces of the pinions are provided with flanges 7, adapted to be connected to a clutch member 8, which is held to the shaft by a suitable key or lug 9. As is usual in devices of this class, the clutch member has ratchet-teeth 10, which may be locked by a dog 11 to the pinion in one direction of movement; but in the opposite direction of movement the pinion will revolve freely on the shaft without revolving the reel. Under ordinary circumstances when the machine is pushed ahead the pinions at each end of the reel-shaft will be locked thereto by the clutching members and will rotate the shaft and force the grass against the cutter-bar 12. When the machine is drawn backward or when it is reversed, as in Fig. 1, the clutch will not engage the pinions, and the latter will rotate freely without causing any movement of the reel. One method of sharpening which has been practiced in machines of this class is to remove the drive-wheels and place the clutches and pinions end for end, and as the clutches and pinions are made right and left handed the interchanging will effect the positive rotation of the reel-shaft when the machine is reversed and pushed forward. Emery and oil are then placed on the cutter-bar, and the knives are sharpened by the movement past each other in a direction the reverse of that in which they move when cutting. After the cutter-bar is sharpened it is then necessary to replace all of the parts in the original positions before the machine can be again operated. This operation entails considerable work and is objectionable on account of the grease and dirt with which the gearing is filled.

In carrying out my invention I cut a key-seat 15 in the reel-shaft and a similar key-seat 16 in the pinion, so that when it becomes necessary to sharpen the cutter all that is required is the insertion of a key 17 into the two key-seats, the pinion and shaft being thus positively locked together in both directions of movement, and when the machine is reversed and pushed forward the blades on the reel will revolve in reverse direction against the cutter-bar and sharpen the same, emery and oil or other suitable material being first placed on the bar. To replace the machine in its original condition, the key is removed and the pinion again passes under the control of the clutching mechanism.

To facilitate the insertion of the key, I form in one of the driving-wheels a suitable opening 18, the wheel being turned until the opening is in alinement with the key-seat and the key being readily inserted or removed by any suitable implement.

To apply the invention to machines already in use, it is merely necessary to cut the two key-seats and bore the opening 18; but machines may be manufactured in accordance with the invention without in any way adding to the expense of construction, as will be readily understood.

Having thus described my invention, what I claim is—

1. A lawn-mower having as elements, a cutter-bar, a reel-shaft having a key-seat, a driving-wheel having an opening in alinement with said key-seat, a pinion having a key-seat and normally mounted loosely on the reel-shaft, a clutching mechanism for connecting the pinion to the reel-shaft in one direction of movement, and a key adapted to fit in the key-seat of the shaft and pinion to lock the two together when it is desired to sharpen the cutter-bar.

2. The combination of the reel-shaft and its loosely-mounted pinion, each having a key-seat, mechanism for clutching the pinion to the shaft on one direction of movement, a driving-wheel having an opening which may be moved in alinement with the key-seat, and a key adapted to be inserted in said key-seat to effect the locking of the pinion to the shaft, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRED L. ADAMS.

Witnesses:
B. E. HURD,
W. D. SMITH.