

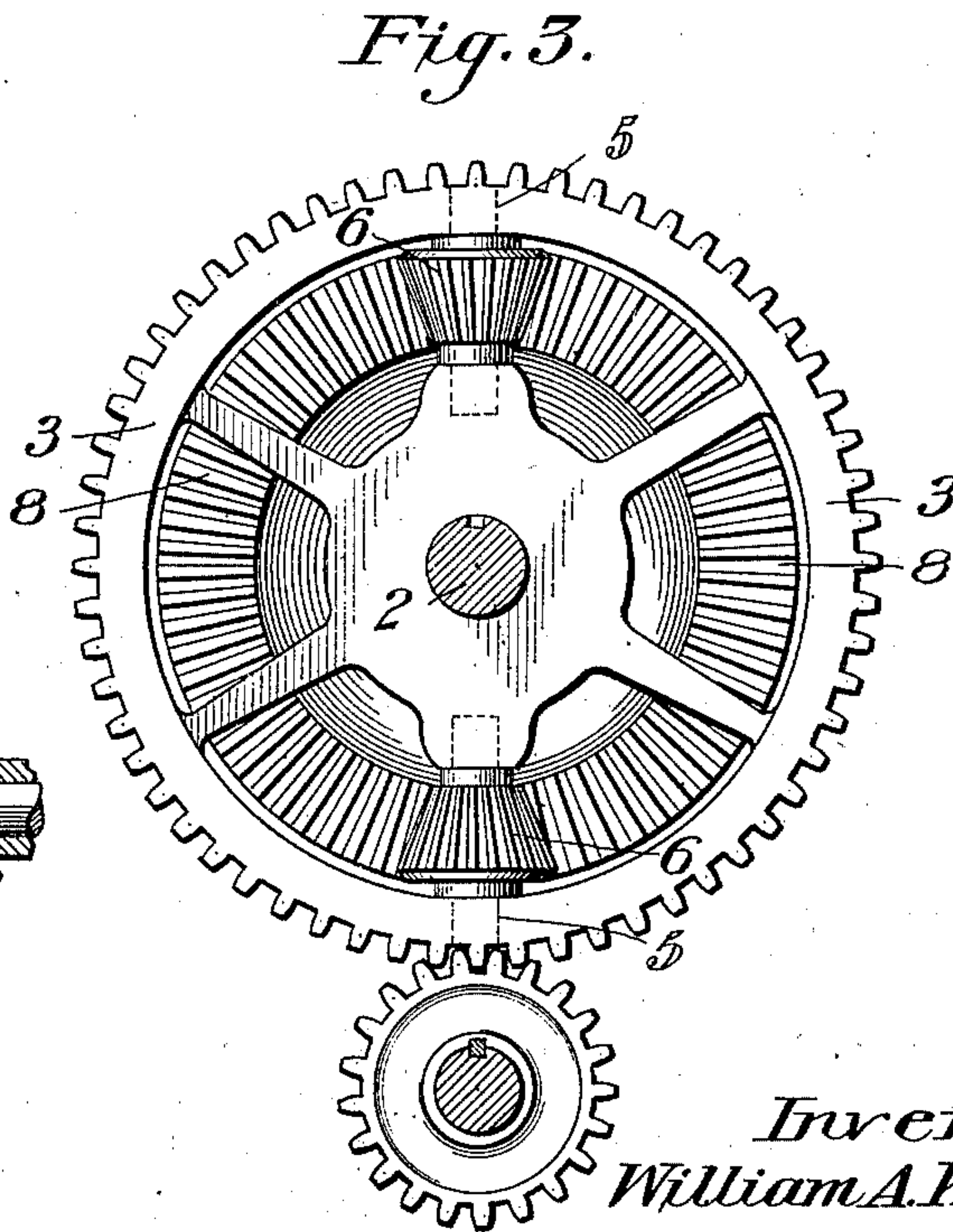
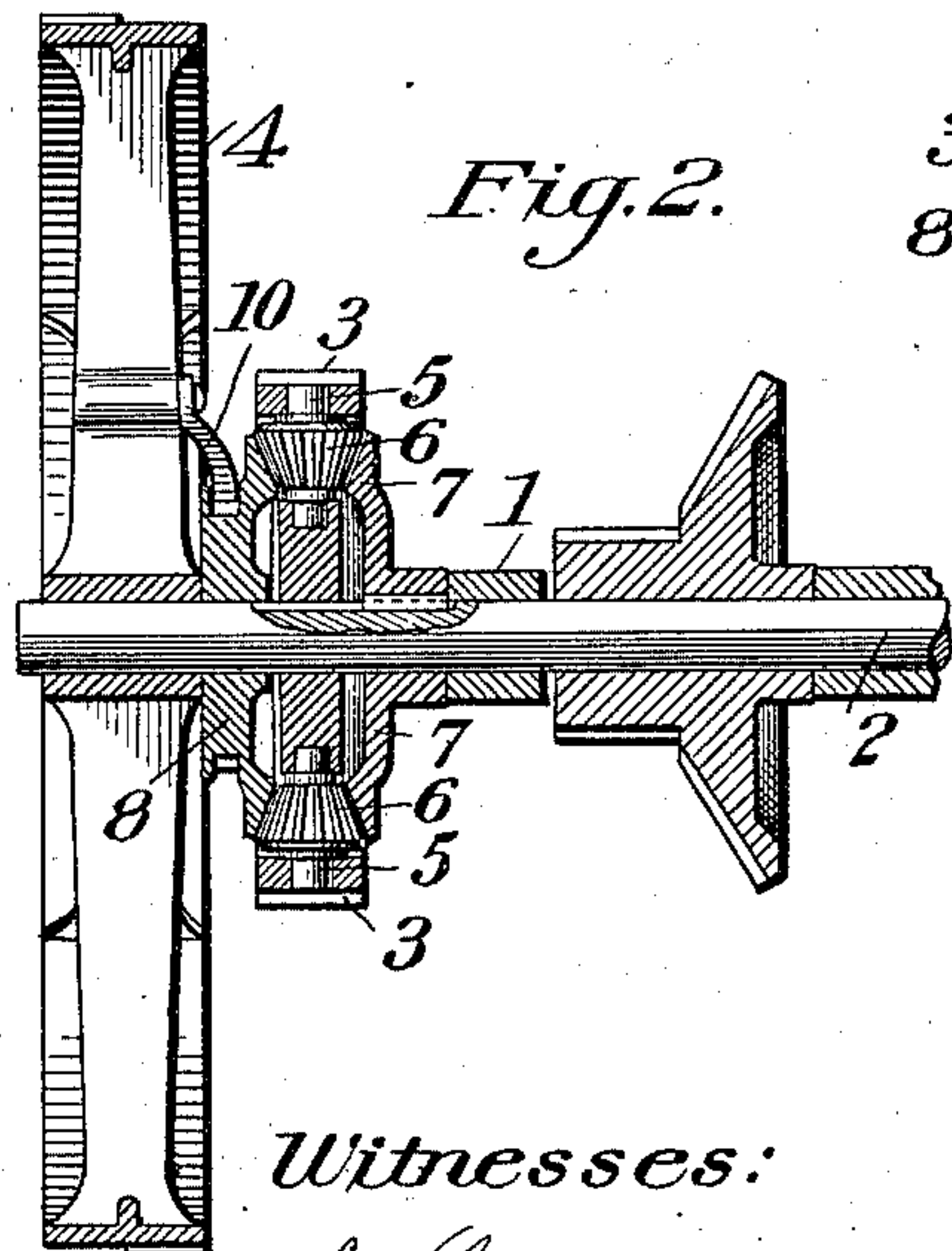
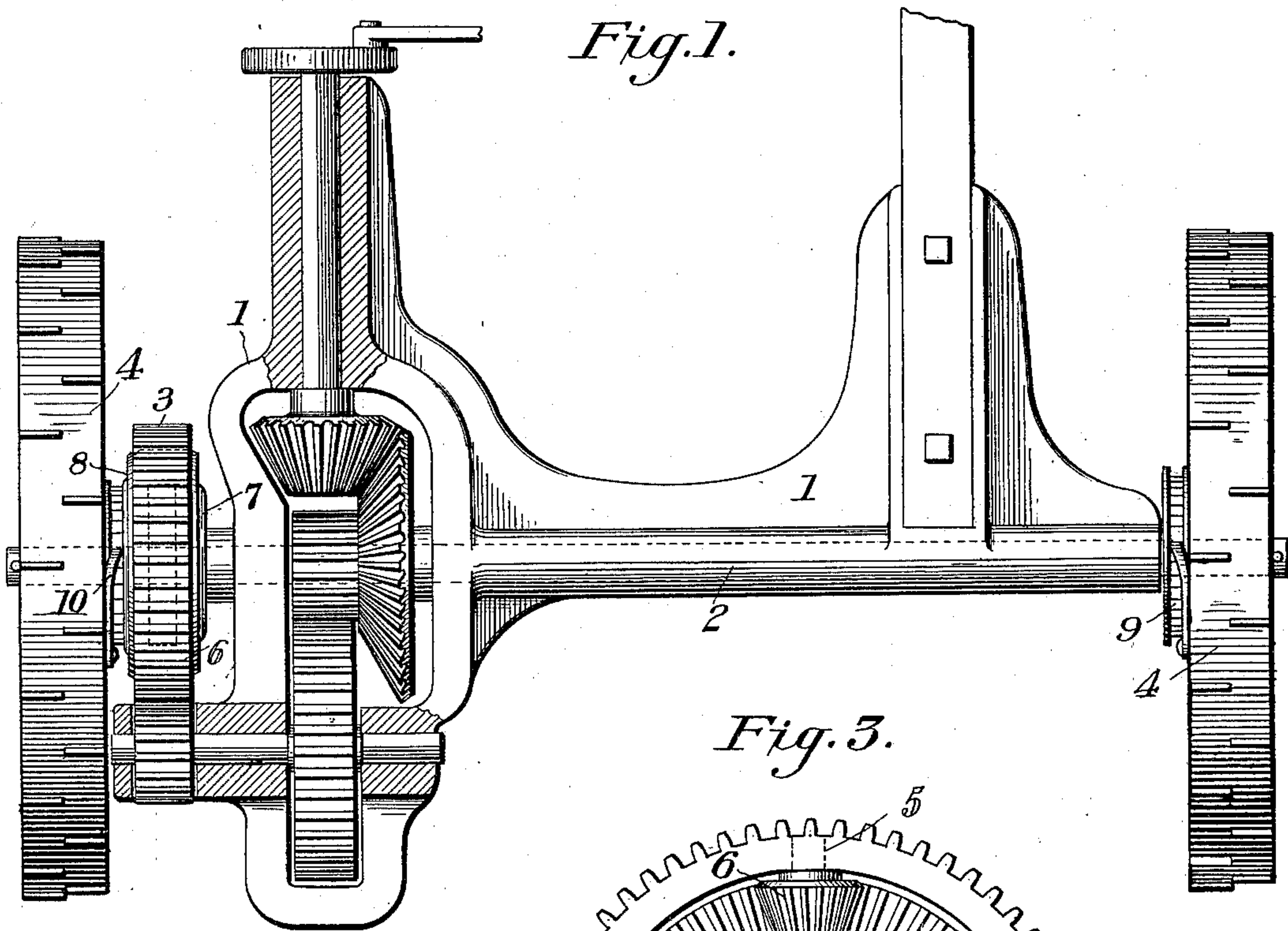
No. 702,442.

Patented June 17, 1902.

W. A. KIRBY.  
GEARING FOR MOWING MACHINES.

(Application filed Jan. 31, 1902.)

(No Model.)



Witnesses:  
H. L. Amer.  
Edwin L. McKee.

Inventor:  
William A. Kirby  
By *Resford M. Smith*  
Att'y.



# UNITED STATES PATENT OFFICE.

WILLIAM A. KIRBY, OF NEWDORP, NEW YORK.

## GEARING FOR MOWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 702,442, dated June 17, 1902.

Application filed January 31, 1902. Serial No. 92,051. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. KIRBY, a citizen of the United States, residing at Newdorp, in the county of Richmond and State of New York, have invented a certain new and useful Gearing for Mowing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to gearing for mowing-machines of the type known as "two-wheeled," and has for its object to provide compensating gearing interposed between the driving and carrying wheels and mounted upon the main shaft or axle, whereby the speed of rotation of said shaft or axle is rendered practically uniform irrespective of the movement of the machine in a straight line or in a curved path, as in turning a corner or changing the course of the machine to avoid obstacles of any kind. With the ordinary construction, in which the driving and carrying wheels have a pawl-and-ratchet engagement with the main shaft or axle, the outer wheel in making a curve or turning a corner necessarily travels faster than the inner wheel and more rapidly than it does where the machine is moving in a straight line.

30 With the above object in view the invention consists in the novel construction, combination, and arrangement of parts herein-after fully described, illustrated in the drawings, and claimed.

In the accompanying drawings, Figure 1 is a plan view of a sufficient portion of a mowing-machine to illustrate the present invention. Fig. 2 is a detail sectional view taken longitudinally of the main shaft or axle. Fig. 3 is a cross-section taken adjacent to the main gear from which the cutting apparatus is driven.

Like reference-numerals denote like parts in all the figures of the drawings.

45 In the present construction of two-wheeled mowing-machines when operating on a curve but one driving-wheel has full power to drive the cutting apparatus, thus causing considerable side draft.

50 In carrying out my invention I employ a main frame 1, in which the ordinary gearing is placed to give the cutters the proper mo-

tion. On a main shaft or axle 2 the main gear-wheel 3 is placed, and at the ends of said shaft the driving-wheels 4 are located, the same being mounted on the shaft 2, which is continuous or unbroken. On a shaft 5, at right angles to the main shaft 2, is placed a bevel pinion or pinions 6, while on the main shaft is placed a bevel gear-wheel 7, which meshes into the bevel pinion or pinions 6 in the driving-gear, said bevel-wheel 7 being keyed or otherwise fixed upon the main shaft 2. On the opposite side of the driving gear-wheel 1 place another bevel gear-wheel 8, which meshes into the same bevel pinion or pinions 6 within the driving-gear. One driving-wheel 4 is connected to the main shaft by means of a pawl-and-ratchet mechanism, as shown at 9, while the opposite driving-wheel is connected to the bevel gear-wheel 8 on that side of the driving-gear by pawl-and-ratchet mechanism, as shown at 10. The main gear-wheel 3, bevel-wheel 8, and driving-wheel adjacent thereto are free to turn on the main shaft 2, the pawl-and-ratchet mechanism allowing the machine to be out of gear when backing.

When the machine is progressing in a straight line, both of the bevel gear-wheels turn together with the same speed; but as soon as the machine starts upon the curve the wheel at the outer side of the curve turns more rapidly than that at the inner side of the curve and correspondingly accelerates the rotation of the adjacent bevel gear-wheel. The latter operates in turn upon the bevel pinion or pinions, thus having a tendency to impart a reverse movement to the oppositely-located bevel gear-wheel. As said bevel-gear cannot turn backward, however, the effect is to maintain an operative engagement between the shaft and the driving-wheel at the inner side of the curve. Thus the power of both wheels is utilized in describing a curve and the cutting apparatus is driven at practically the same speed on curves as when traveling in a straight line.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

In gearing for mowing-machines, the combination with the main shaft, and the carry-

ing-wheels for driving said shaft, of a bevel-gear loose on the shaft and having a pawl-and-ratchet engagement with one driving-wheel, a second bevel-gear fast on the shaft  
5 opposite the first bevel-gear, one or more bevel-pinions interposed between the bevel-gears, a train of gears one of which carries the bevel pinion or pinions, and pawl-and-ratchet devices interposed between the shaft

and the other driving-wheel, substantially as is set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WM. A. KIRBY.

Witnesses:

N. REYNOLDS,  
GEO. E. FRECH.