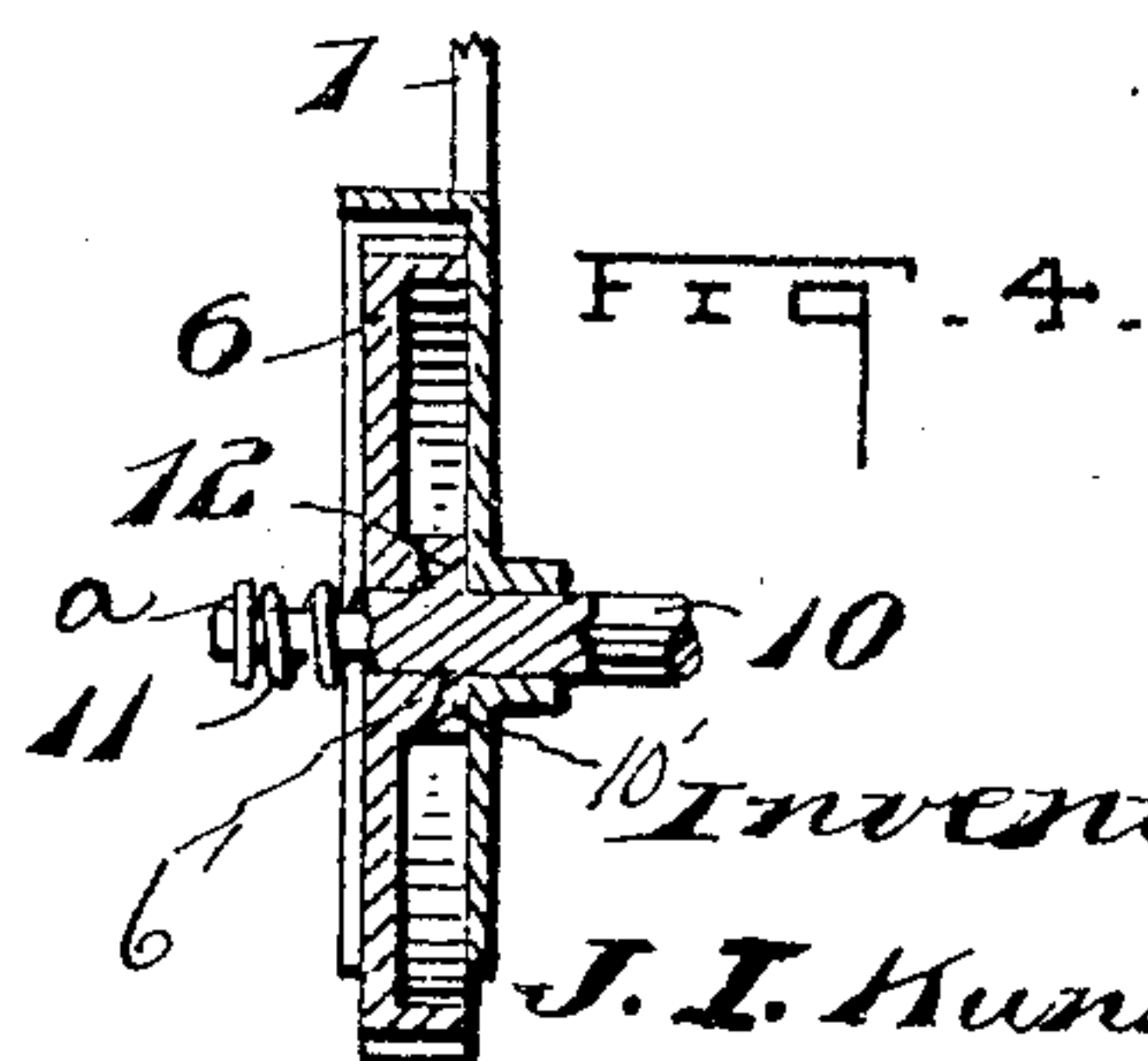
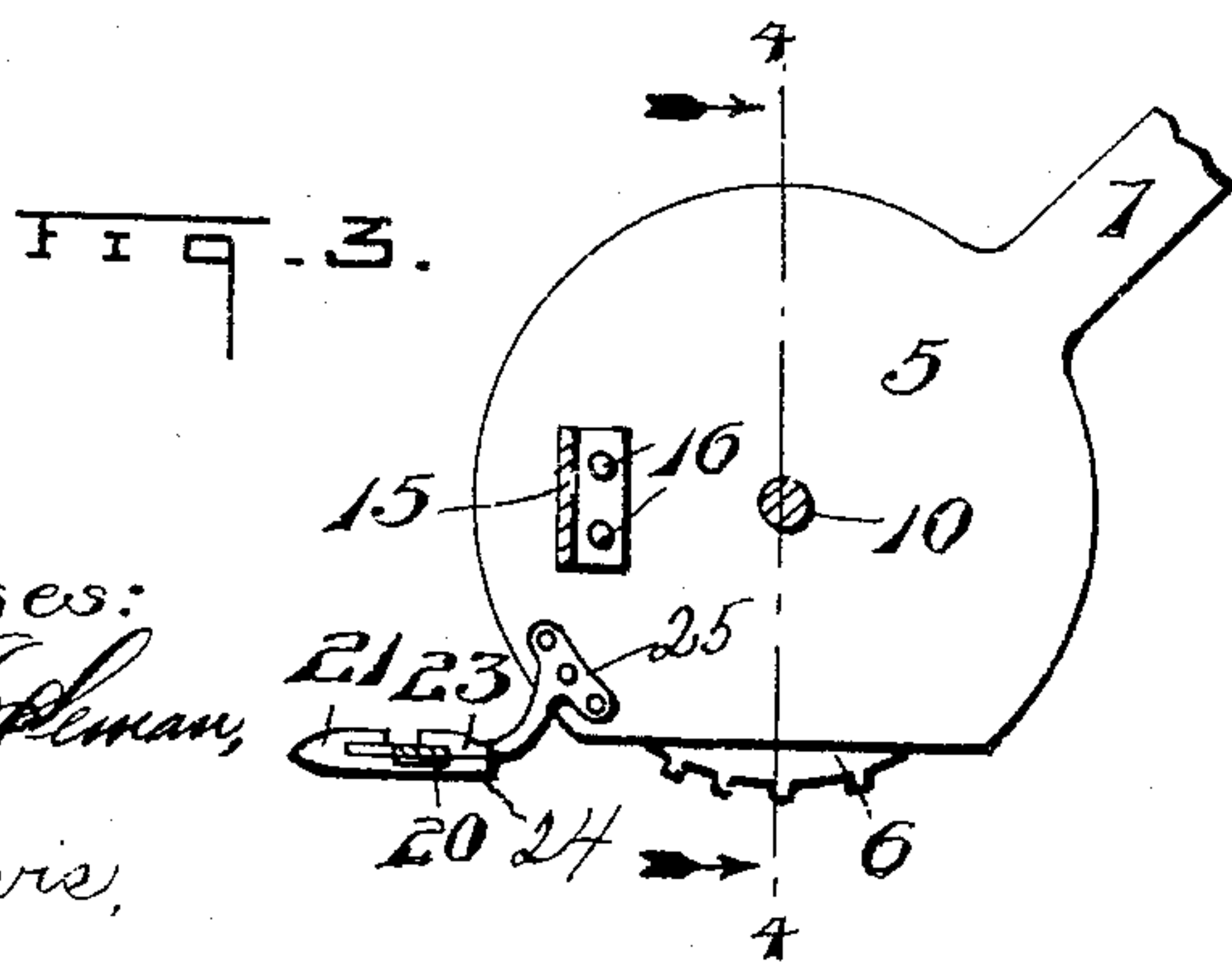
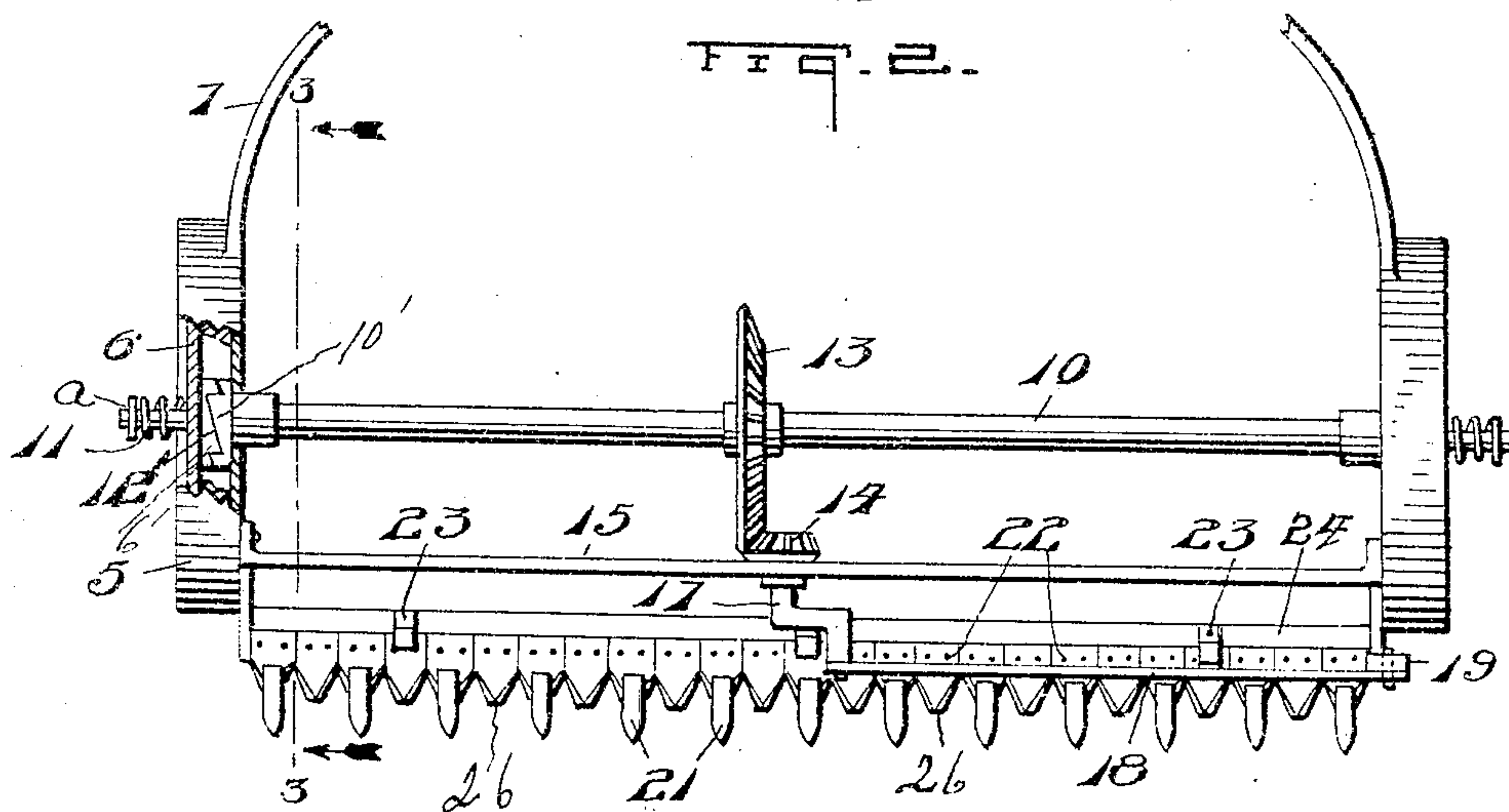
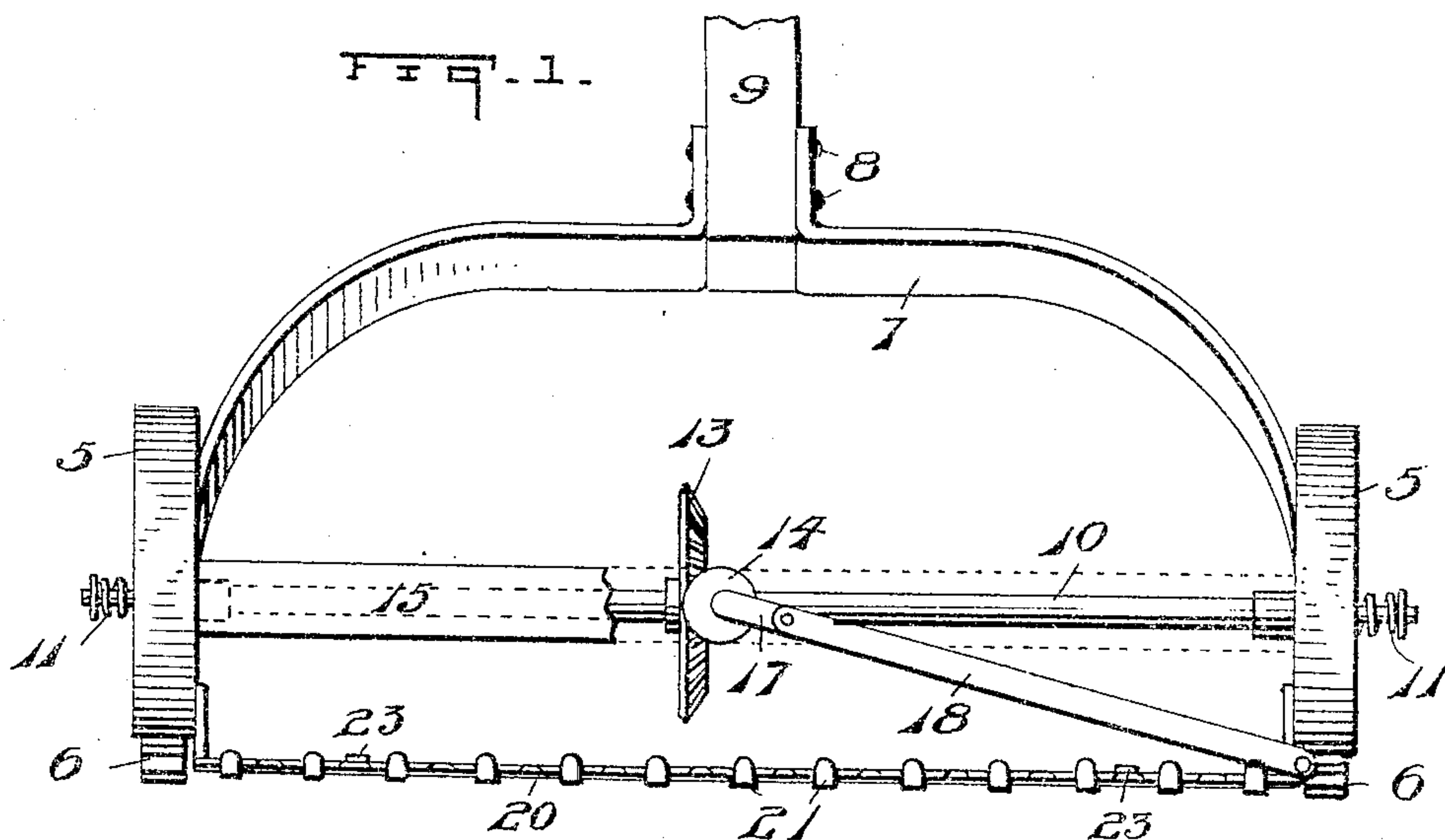


No. 779,429.

PATENTED JAN. 10, 1905.

J. I. KUNKLE,  
LAWN MOWER.

APPLICATION FILED APR. 13, 1904.



*Witnesses:*

J. P. Appleman,  
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by *John Woland*  
*Attorney*

# UNITED STATES PATENT OFFICE.

JAMES I. KUNKLE, OF SWISSVALE, PENNSYLVANIA.

## LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 779,429, dated January 10, 1905.

Application filed April 13, 1904. Serial No. 202,897.

*To all whom it may concern:*

Be it known that I, JAMES I. KUNKLE, a citizen of the United States of America, residing at Swissvale, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Lawn-Mowers, of which the following is a specification.

My invention relates to improvements in lawn-mowers.

It has for its object to greatly promote simplicity, expedite the cutting or mowing action, lessen the cost of manufacture, and otherwise add to its utility, convenience, and facility of operation.

It consists of the novel features of construction and of the arrangement and combination of parts, substantially as hereinafter disclosed, pointed out in the claim attached hereto, and illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my improved lawn-mower. Fig. 2 is a plan view thereof. Fig. 3 is a section taken on the line 3 3 of Fig. 2, and Fig. 4 is a vertical section of one of the power-wheels.

In the drawings, 5 represents casings of any ordinary construction used with lawn-mowers. Journaled in the casings and extending therebeyond is a shaft 10, having near both ends and within the casing a collar 10', one face of which is formed with a ratchet 12. Loosely mounted on the shaft within the casings are wheels 6, having on their inner faces bosses 6', provided with the ratchets 12', adapted to engage with the ratchets 12 of the collar 10'. At the ends of the shaft is a stop  $\alpha$ , suitably secured thereto. Interposed therebetween and the wheels 6 and embracing the shaft 10 are spiral springs 11. These springs exert sufficient pressure on the wheels 6 to keep the ratchets 12 12' normally in engagement with each other.

Keyed on the shaft 10 is a bevel-gear 13, which meshes with a miter-gear 14, mounted on a brace 15. The brace 15 is secured at both

ends to the casings 5, as at 16. The miter-gear 14 is on a crank-shaft 17, which has pivotally connected thereto at one end a driving-rod 18. The opposite end of the rod 18 is pivotally connected to a lug 19, formed on the sliding strip 20, that works in the slotted fingers 21, projecting outwardly from a strip 24, secured at either end to the casings 5, as at 25. Knives 26 are removably secured to the strip 20 by means of screws 22. Guides or clips 23 are on the strip 24 to keep the knife-strip 20 in proper line. Integral with the casings 5 are bands 7, which are riveted at 8 to an end of the post 9. On the opposite end thereof is a suitable handle. (Not shown.)

The operation is as follows: The wheel having ratchets arranged thereon to mesh with the corresponding ratchets on the shaft will in its forward movement cause the shaft 10 to revolve, thereby bringing into motion the crank-shaft 18, which will reciprocate the driving-rod 19, which imparts the desired movement to the knife-strip 20. On the rearward movement of the mower the wheel, being loosely mounted on the shaft, will ride over the ratchets of the shaft 10 and rotate independently thereof.

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

A lawn-mower comprising casings, a brace-strip secured to the casings, a finger-strip also secured to the casings, slotted fingers projecting from the finger-strips, a shaft journaled in and extending beyond the casings, stops on the ends of the shaft, collars on the shaft within the casings, said collars having a ratchet-face, wheels loosely mounted on the shaft and within the casings, bosses formed on the wheels, said bosses having a ratchet-face adapted to engage the ratchets of the collars, spiral springs on the shaft between the stops and wheels, said springs being adapted to keep the ratchets of the wheels and collars normally in engagement, a gear-wheel keyed on the



shaft, a crank-shaft mounted on the brace-rod,  
a gear-wheel on the crank-shaft meshing with  
the gear on the shaft, a knife-strip held by  
the slotted fingers, a lug on the knife-strip, a  
5 rod pivoted to the crank-shaft and lug of the  
knife-strip, clips on the finger-strip to keep  
the knife-strip in line and a handle suitably  
secured to the casings.

In testimony whereof I affix my signature, in  
the presence of two witnesses, this 12th day of 10  
April, 1904.

JAMES I. KUNKLE.

Witnesses:

JOHN NOLAND,  
J. P. APPLEMAN.