(No Model.)

2 Sheets—Sheet 1.

P. & L. P. LORENZ.

MOWER.

No. 436,947. Patented Sept. 23, 1890.

Fig. 1.

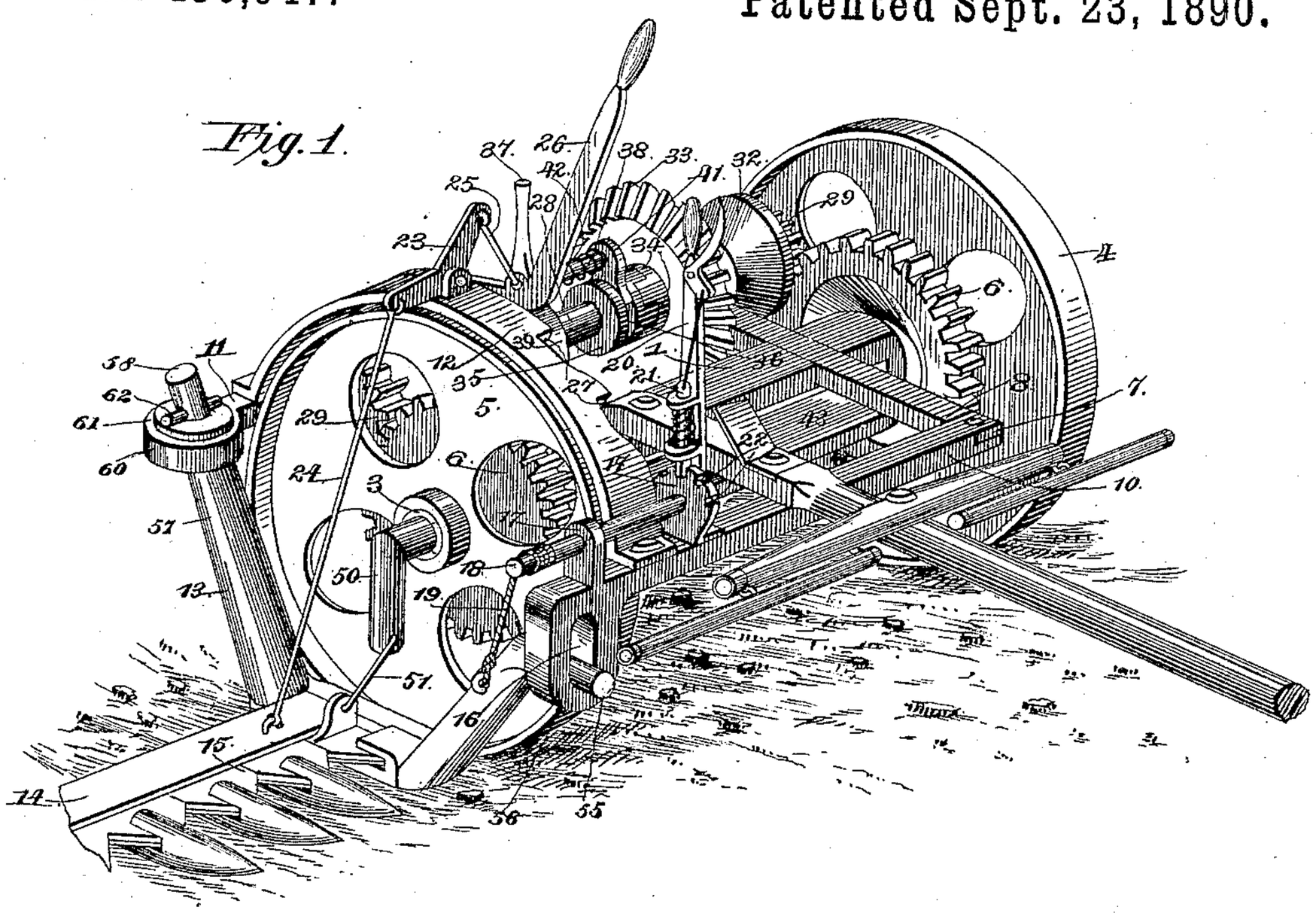
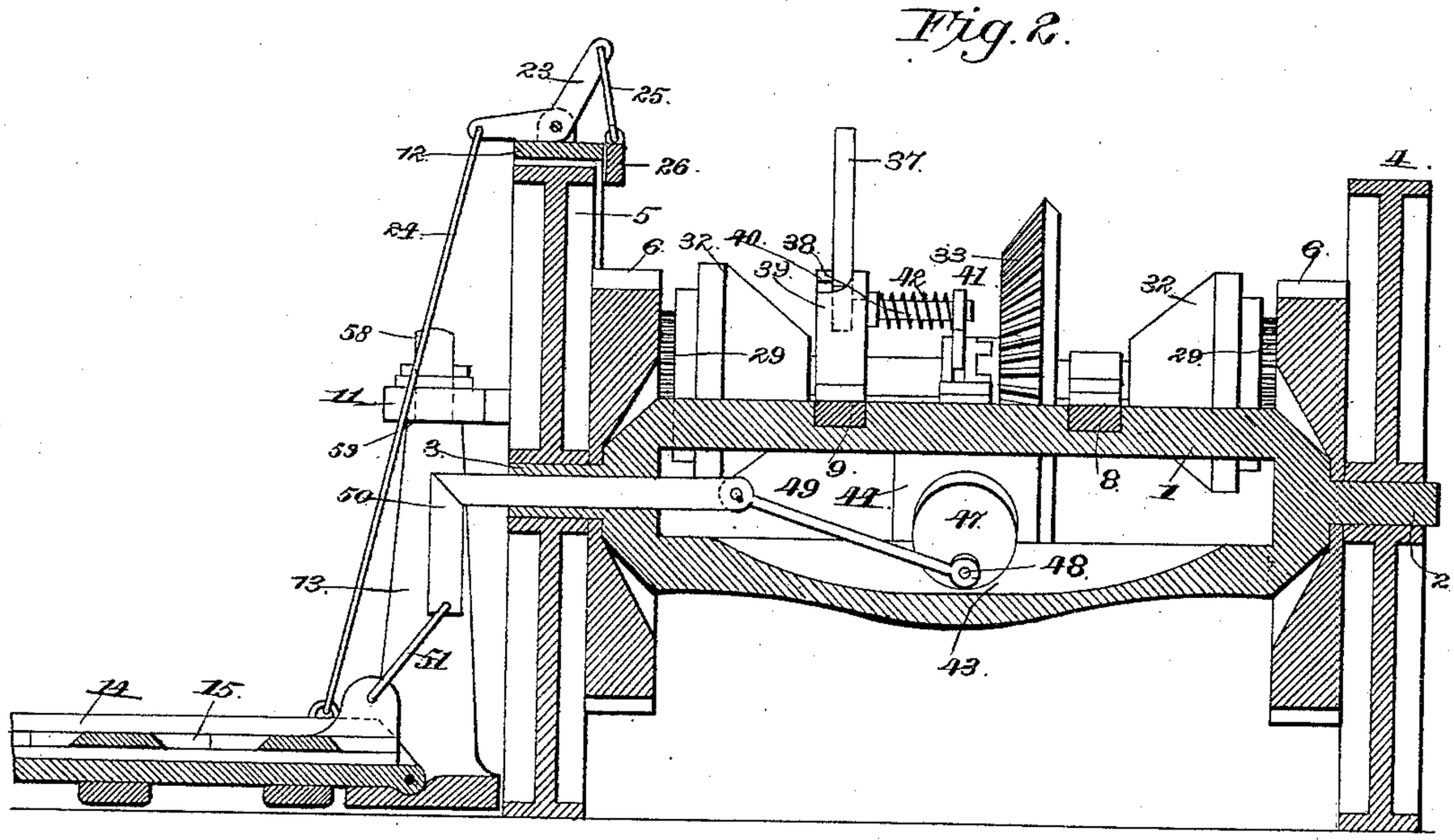


Fig. 2.



Witnesses

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

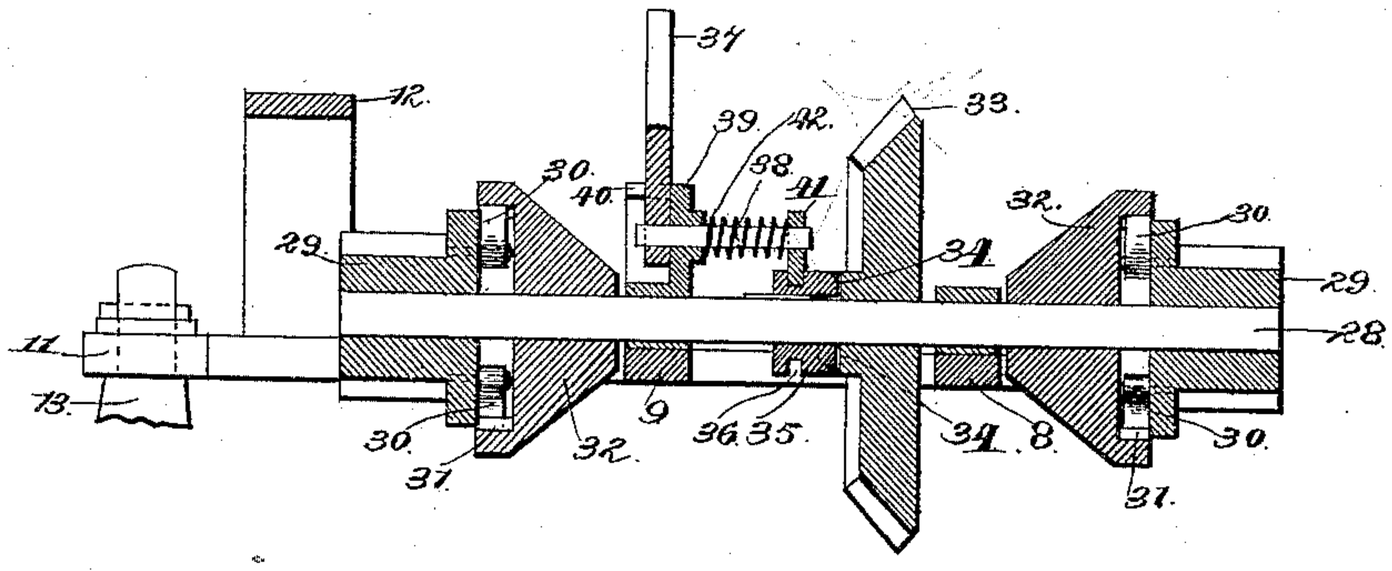


Fig. 4.

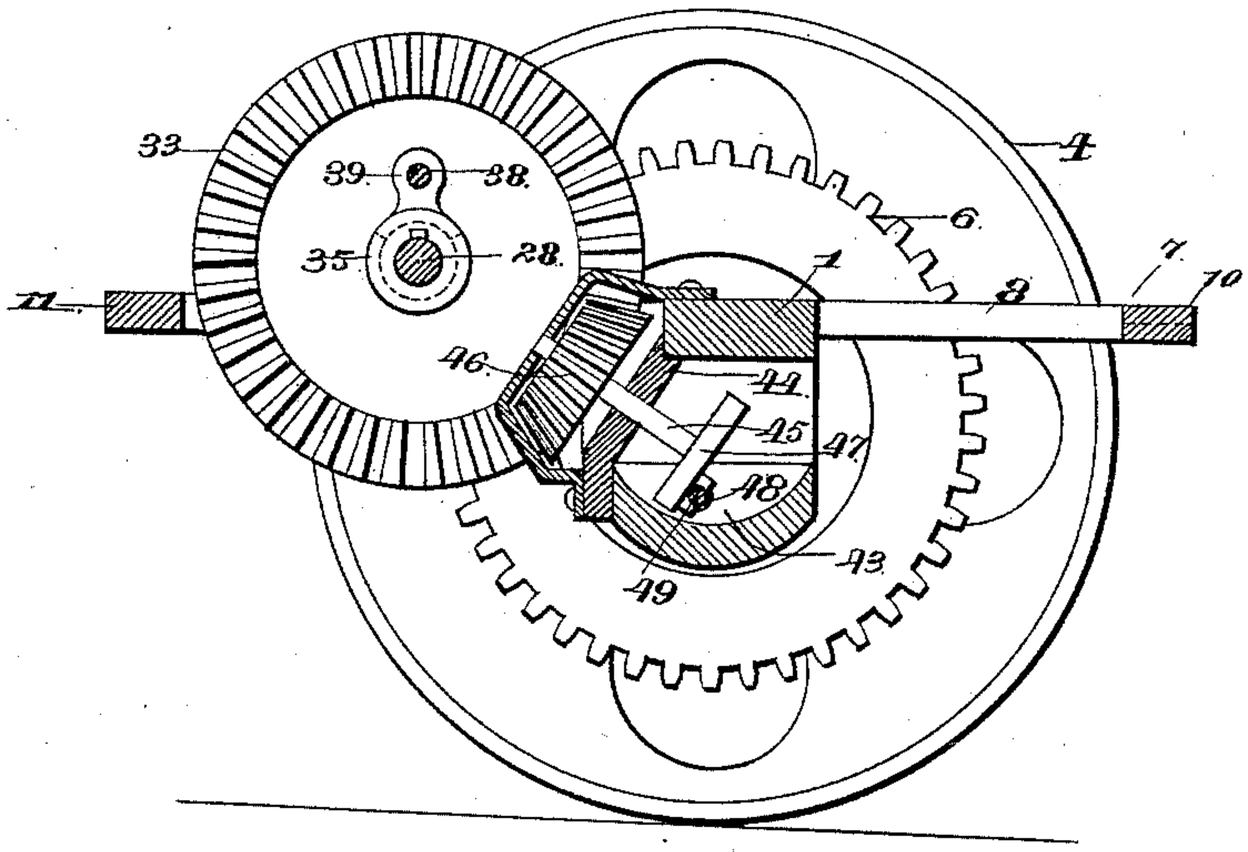
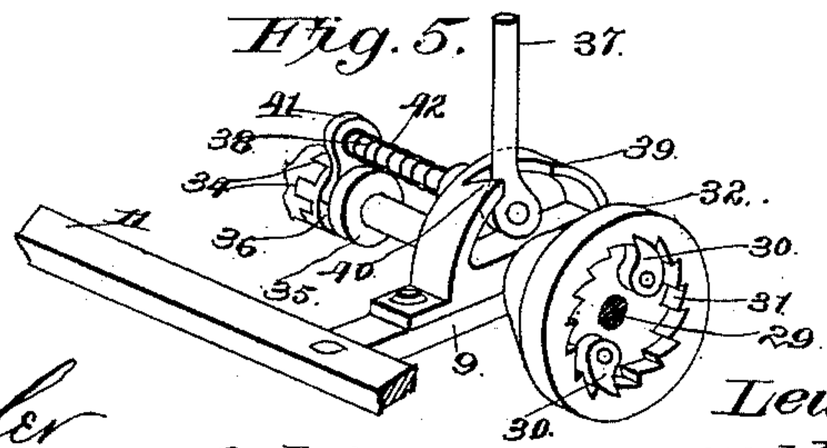


Fig. 5.



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UNITED STATES PATENT OFFICE.

PHILIP LORENZ AND LEWIS P. LORENZ, OF RIMERSBURG, PENNSYLVANIA.

MOWER.

SPECIFICATION forming part of Letters Patent No. 436,947, dated September 23, 1890.

Application filed August 26, 1889. Serial No. 321,997. (No model.)

To all whom it may concern:

Be it known that we, PHILIP LORENZ and LEWIS P. LORENZ, citizens of the United States, residing at Rimersburg, in the county of Clarion and State of Pennsylvania, have invented a new and useful Mowing-Machine, of which the following is a specification.

The invention relates to improvements in mowing-machines.

The invention has for its object to simplify and improve the construction of mowing-machines; and it consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the accompanying drawings, Figure 1 is a perspective view of our improved mowing-machine. Fig. 2 is a vertical transverse sectional view taken through the axle of the machine. Fig. 3 is a vertical transverse sectional view taken through the operating-shaft arranged parallel to the axle. Fig. 4 is a vertical longitudinal sectional view. Fig. 5 is a perspective detail view showing parts of the operating mechanism.

Like numerals of reference indicate like parts in all the figures.

The axle, which is designated by 1, is provided at one end with a solid spindle 2, and at the other end with a tubular spindle 3, upon which the supporting-wheels 4 and 5 are respectively mounted. Said supporting-wheels are provided on their inner sides with spur-wheels 6.

The frame of the machine, which is designated by 7, is mounted upon the upper side of the axle, and it comprises the side beams 8 and 9, which are connected by the front and rear beams 10 and 11, both of which are extended beyond the end of the axle, having the tubular spindle 3, and which are further connected by an arched bar or beam 12 extending above the wheel 5. The outer ends of the frame-bars 10 and 11 have bearings for the yoke 13, at the lower end of which is hinged the finger-bar 14, having a reciprocating cutter 15 of ordinary construction. The front end of the yoke 13 is provided with a horizontal journal 55, which extends forward and is loosely mounted in a vertical slot 16 in a depending portion 56 at the outer end of the frame-bar 10. The rear portion 57 of the yoke 13 is a gradually-tapering circular post having its upper end 58 reduced to form a shoulder 59, upon which rests an annular end 60 of the frame-bar 11. The annular portion or end 60 is provided with a central opening, through which passes the reduced end 58 of the tapering post of the yoke, and the said annular portion 60 is secured to the yoke by a washer 61 and a pin 62 passing through the reduced end 58. The latter is provided on its upper side with brackets 17, in which is mounted a shaft 18, one end of which is connected with the front end of the yoke by means of a cord or chain 19, by winding which upon the shaft 18 the front end of the yoke will be raised or elevated. The inner end of the shaft 18 has a lever 20, provided with a spring-latch 21, adapted to engage a segmentally-arranged series of notches 22 in the upper side of the inner bracket 17.

Upon the arched frame-bar 12 is mounted a bell-crank lever 23, the outer arm of which is connected with the finger-bar 14 by means of a link or rod 24. The inner or vertical arm of the bell-crank lever 24 is connected by a link 25 with a lever 26, pivoted to the inner side of the arch-bar 12 and adapted to engage any one of a series of notches 27 in the said arched bar, which will serve to retain the said lever in any position to which it may be adjusted.

The frame-bars 8 and 9 are provided in rear of the axle 1 with bearings for a transverse shaft 28, which is parallel to the axle. Loosely mounted upon the ends of the said shaft are the pinions 29, which mesh with the spur-wheels 6 upon the wheels 4 and 5, and the inner sides of which are provided with spring-pawls 30, adapted to engage teeth or ratchets 31 upon the inner sides of the clutch-collars 32, which are mounted securely upon the shaft 28.

33 designates a bevel-wheel, which is mounted loosely upon the shaft 28, and the face of which is provided with recesses 34, adapted to be engaged by a clutch-collar 35, which is mounted or feathered so as to be capable of sliding upon the shaft 28. The clutch-collar 35 has an annular groove 36.

37 designates a lever secured at one end of a short shaft 38, which is mounted in a

bracket 39, having a cam-shaped projection 40. Upon the opposite end of the shaft 38 is swiveled a key 41, engaging the annular groove 36 in the clutch-collar 35, and the said key is forced in an outward direction from the bracket 39 by the action of a spring 42, coiled upon the shaft 38. It will be seen that by depressing the lever 37 it will engage the cam 40 of the bracket 39, thus moving the key 41 toward the bracket against the tension of the spring 42, and thus disengaging the clutch 35 from the bevel-wheel 33. When the lever 37 is raised, the spring 42 forces the clutch-collar 35 into engagement with the bevel-wheel 33, thus causing the latter to revolve with the shaft 28.

The axle of the machine, for the purpose of making it light without detracting materially from its strength, is provided with a longitudinal slot, and its under side 43 is connected with the upper part of the axle by a bracket 44, having bearings for a shaft 45, the rear end of which is provided with a pinion 46 meshing with the bevel-wheel 33. The front end of the shaft 45 has a disk 47, provided with a crank or wrist-pin 48, which is connected by a pitman 49 with a slide 50, extending through the hollow or tubular spindle 3 of the machine and having its outer end connected by a link or pitman 51 with the reciprocating cutter-bar 15, to which motion is in this manner communicated.

The operation and advantages of our improved mowing-machine will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed.

We do not desire to limit ourselves to the precise construction and arrangement of details herein described, but reserve the privilege of making such alterations and modifications as may be resorted to without departing from the spirit of our invention.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

The combination of the axle, the supporting-wheels 4 and 5, the frame comprising the side beams 8 and 9, the front and rear beams 10 and 11, connecting the side beams and extending beyond the front beam 10, having at one end a depending portion 56, provided with a slot 16, and the rear beam being provided at one end with an annular portion 60, having a central opening, the yoke 13, having its front portion provided with a horizontal spindle 55, extending forward and loosely journaled in the slot 16, and the rear portion 57, consisting of a tapering circular post having its upper end 58 reduced and secured in the opening of the annular portion 60 by a washer and a pin, and the arched frame-bar 12, forming a guard for the wheel 5 and having its ends secured to the beams 10 and 11 and provided near one end with teeth forming a segmental rack-bar, the finger-bar hinged to the yoke, and the lever 26, fulcrumed on the arched bar 12 and connected with the finger-bar and arranged to engage the notches of the arched bar, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

PHILIP LORENZ.
LEWIS P. LORENZ.

Witnesses:
J. E. FLICK,
GEORGE ECK.