

(No Model.)

2 Sheets—Sheet 1.

W. P. GRANNIS.  
MOWING MACHINE.

No. 503,957.

Patented Aug. 29, 1893.

Fig. 4.

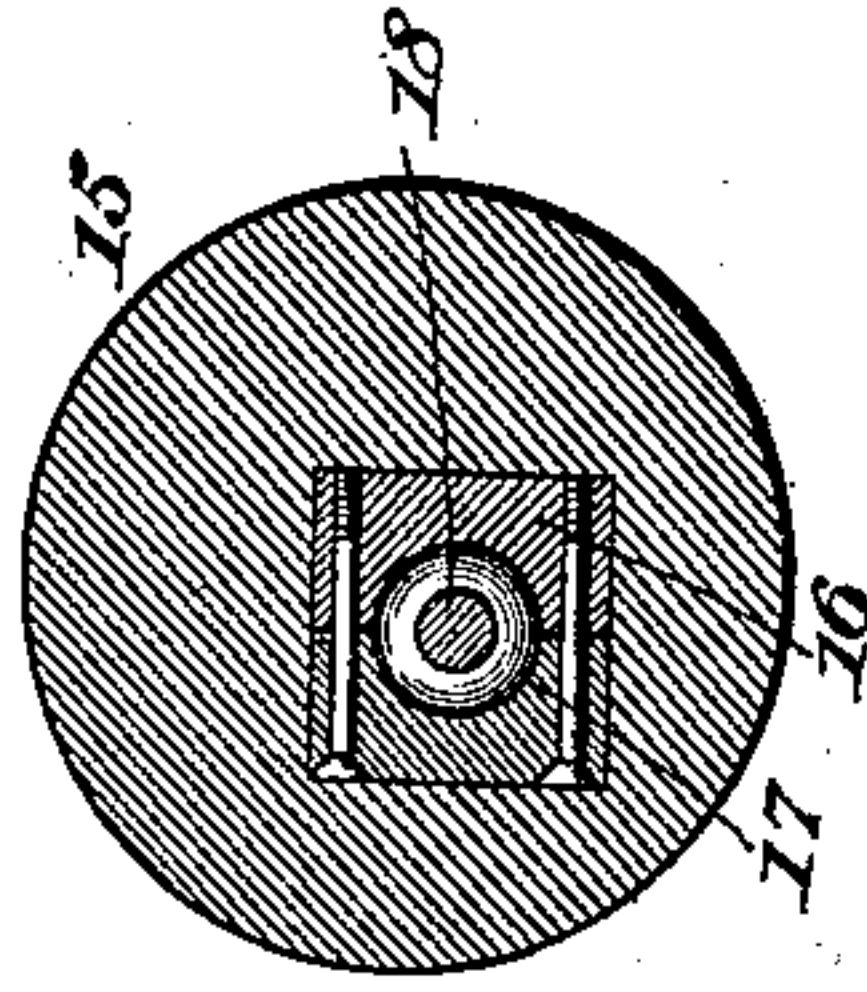


Fig. 1.

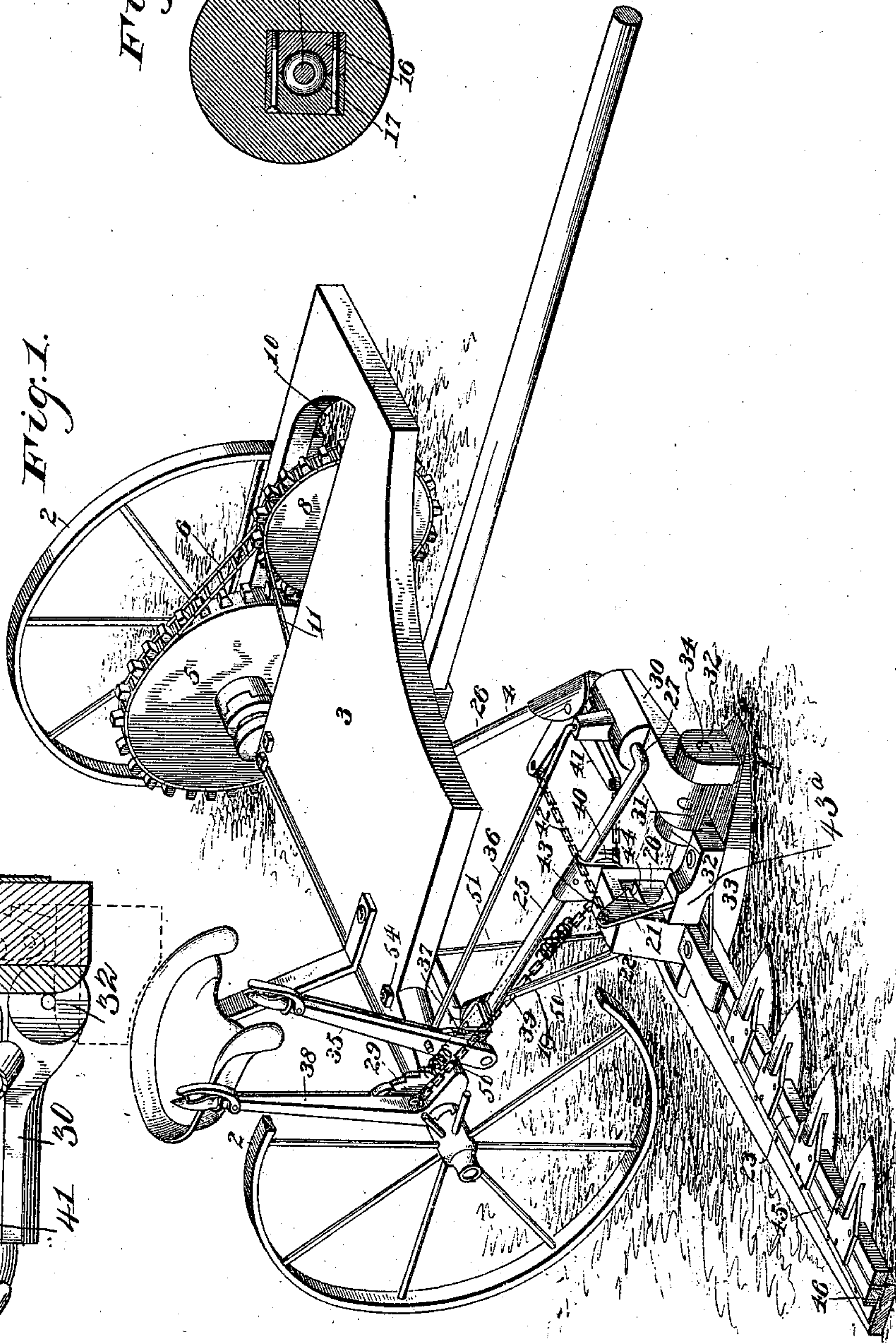
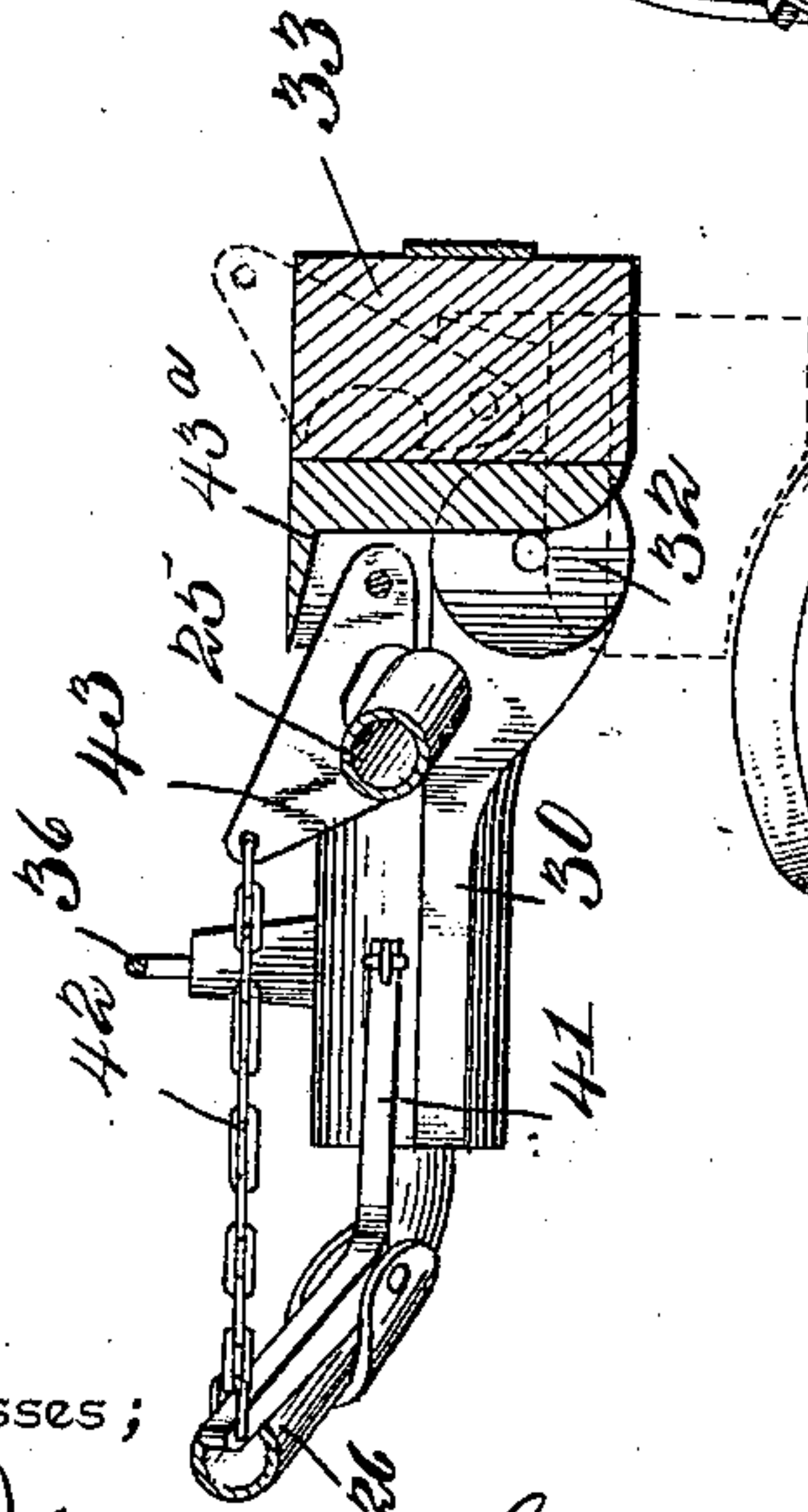


Fig. 6.



Witnesses;

*W. P. Grannis*  
*J. P. Riley*

By *his* Attorneys,

*C. A. Snow & Co.*

Inventor,

*W. P. Grannis,*

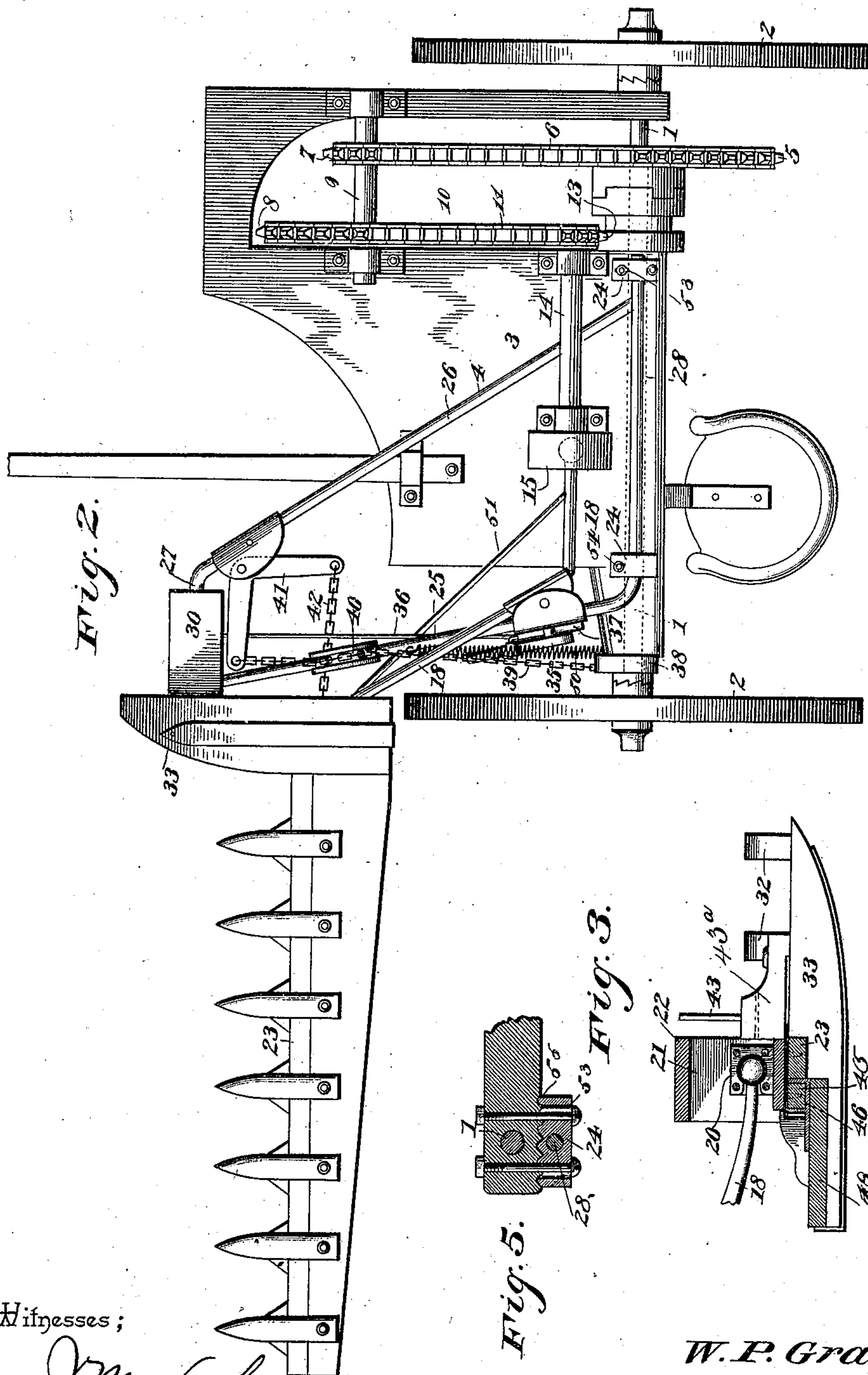
(No Model.)

2 Sheets—Sheet 2.

W. P. GRANNIS.  
MOWING MACHINE.

No. 503,957.

Patented Aug. 29, 1893.



Witnesses;

*M. Withers*  
*J. F. Riley*

By *his* Attorneys,

Inventor,  
*W. P. Grannis,*

*C. A. Snow & Co.*



# UNITED STATES PATENT OFFICE.

WILLIAM PAYNE GRANNIS, OF WOLCOTTVILLE, INDIANA.

## MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 503,957, dated August 29, 1893.

Application filed September 9, 1892. Serial No. 445,429. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM PAYNE GRANNIS, a citizen of the United States, residing at Wolcottville, in the county of La Grange and State of Indiana, have invented a new and useful Mowing-Machine, of which the following is a specification.

The invention relates to improvements in mowing machines.

The object of the present invention is to improve the construction of mowing machines more particularly the cutting apparatus and the means for operating the same.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a perspective view of a mowing machine constructed in accordance with this invention. Fig. 2 is a reverse plan view. Fig. 3 is a transverse sectional view of the cutting mechanism. Fig. 4 is a detail sectional view of the disk showing the eccentric socket. Fig. 5 is a detail sectional view illustrating the adjustable bearing. Fig. 6 is a detail sectional view showing the catch in engagement with the coupling frame.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates an axle, 2 carrying wheels which are connected in the usual manner with the axle by clutch mechanism, and 3 designates a main frame mounted on the axle and extending forward therefrom and carrying the gearing for actuating the cutting apparatus which is hung from the main frame by an open coupling frame 4. Fast upon the axle is a sprocket wheel 5 on which is a sprocket chain 6 which passes around a small sprocket wheel or pinion 7 formed integral with a front sprocket wheel 8, and the latter is mounted on a shaft 9 which is journaled in suitable bearings near the front of the main frame 3, the gear wheels being arranged in an opening 10. A sprocket chain 11 is arranged on the front sprocket wheel 8 and passes around a rear sprocket pinion 13, which is mounted on one end of a shaft 14; and the latter has se-

cured to its other end a disk 15 in which is eccentrically arranged a sectional bearing block 16 in the opposed faces of the sections of which are socket recesses forming a cylindrical socket 17.

In the cylindrical socket 17 is arranged one end of an arm of a bell-crank lever 18, which is provided with a ball to fit the socket, and which is fulcrumed at its angle on the coupling frame 4 near the rear end of one side of the same. The front end of the other and longer arm of the bell-crank lever 18 is provided with a ball and is arranged in a sectional bearing block 20, which is mounted in a vertical opening 21 of a housing 22 mounted on the sickle bar 23 of the cutting apparatus, whereby when the rear shaft 14 is rotated the sickle bar will be reciprocated by means of the bell-crank lever. The sections of the bearing blocks 16 and 20 are secured together by bolts; and the bearing block 20 is arranged in the longitudinal opening 21 to permit an adjustment of the cutting apparatus without interfering with the operation or reciprocation of the sickle bar.

The coupling frame 4 is constructed of round metal and is arranged in adjustable bearings 24 and extends from the rear portion of the main frame to one side of the machine and consists of slightly converging sides 25 and 26 and front and rear ends 27 and 28.

To the front end 27 of the coupling frame is secured a sectional coupling block 30 which has an eye disposed longitudinally of it to receive the front portion to make a hinge joint, and it is provided at its outer end with a transverse eye 31 which is arranged between perforated ears 32 of the inner shoe 33, and is secured thereto by a pintle 34 which passes through the perforated ears, and the transverse eye of the coupling block 30, thereby effecting a double hinging of the cutting apparatus, and permitting the same to swing upward for folding and forward and rearward to adjust the knives properly for cutting, the elevation of the cutting apparatus being of course obtained by means of the connection between the shoe and the coupling block.

The forward and rearward swinging of the frame is regulated by a lever 35 which is con-



nected by a rod 36 with the coupling block, and which is provided with a latch adapted to engage a ratchet 37.

The upward swinging of the cutting apparatus is controlled by a lever 38 which is fulcrumed on the axle, and is connected by a chain 39 which passes under a pulley 40 with one arm of a bell-crank lever 41, which is fulcrumed on the inner side of the hinged frame near the front end thereof; and the other arm of the bell-crank lever is connected by a chain 42 with a catch 43 which is pivoted to the shoe and is provided with a curved recess 44 which, when the cutting apparatus is elevated to a perpendicular position, is adapted to engage the outer side of the coupling frame, and thereby prevent any strain on the connections between it and the lever 38. The catch 43 is pivotally mounted in a shouldered kerf or recess of an enlargement 43<sup>a</sup> of the inner shoe 33; the enlargement may be integral with the shoe or may consist of a separate block as illustrated in the drawings. The chain 42 is attached to the upper or outer end of the pivoted catch, which forms a member or portion of the connection between the lifting lever and the cutting apparatus.

The sickle bar is provided with a parallel slide-bar 45 which is arranged in a groove 46 of a plate 47 secured to the upper face of the finger-bar 48. The groove 46 is formed by parallel flanges of the plate, and is adapted to receive oil, and it greatly facilitates the reciprocation of the sickle bar. The said lever 38 is provided with latch mechanism of the usual construction adapted to engage a ratchet 29; and the pulley 40 is arranged in a suitable hanger depending from the outer side of the coupling frame.

The sprocket wheels and the chains of the machine are designed to be incased, and thereby shielded and prevented from becoming clogged.

In order to cushion the cutting apparatus in raising and lowering the same, a spiral spring 50 is employed and has one end attached to the ratchet 29, and its other end secured to the chain 39 slightly in rear of the pulley 40. The bell-crank lever which actuates the cutting apparatus, is supported by a brace 51. The bearing 24 which is arranged nearer the sprocket gearing is secured to the main frame by bolts which are arranged in elongated openings or slots 53, whereby the bearing may be adjusted; and the other bearing 24 is secured to the main frame by a pivot bolt 54. The upper face of the slotted bearing is provided with notches or corrugations 55 which engage similar cor-

rugations of the main frame to hold the bearing securely against accidental slipping. By this construction the coupling frame which supports the cutting apparatus may be adjusted relative to the main frame to bring the cutting apparatus in proper position.

What I claim is—

1. In a mower, the combination of an axle, a main frame mounted thereon, a shaft journaled in suitable bearings at the rear end of the main frame, gearing connecting the shaft with the axle, a coupling frame having its rear end connected with the main frame, cutting mechanism arranged at the front end of the coupling frame, a disk carried by the shaft, and provided with an eccentrically arranged rectangular socket the sectional bearing block mounted in the socket of the disk and provided with a socket, and a bell-crank lever fulcrumed at its angle on the coupling frame, and having one arm provided with a ball and arranged in said socket and having its other arm extended forward to the cutting mechanism and connected with the sickle bar, substantially as described.

2. In a mower, the combination of an axle, a main frame mounted thereon, a shaft journaled at the rear end of the frame, gearing connecting the shaft to the axle, a coupling frame hinged at its rear end to the main frame, cutting mechanism hinged to the front of the coupling frame, a disk mounted on said shaft and provided with an eccentrically arranged socket, a housing secured to the sickle bar of the cutting mechanism and provided with a vertical opening, a sectional bearing block mounted in the opening and provided with a socket, and a bell-crank lever fulcrumed at its angle on the coupling frame and having the ends of its arms arranged in said sockets, substantially as described.

3. In a mower, the combination of an axle, a main frame mounted thereon, a coupling frame, cutting apparatus having a shoe, a coupling block connecting the shoe with the coupling frame, a catch pivotally mounted on the shoe and provided with a recess to engage the coupling frame, a lever, and connections between the upper end of the catch and the lever, said catch forming a part of the connection between the cutting apparatus and the lever, substantially as described.

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

WILLIAM PAYNE GRANNIS.

Witnesses:

ROBERT P. BARR,  
HUGH BURRON.