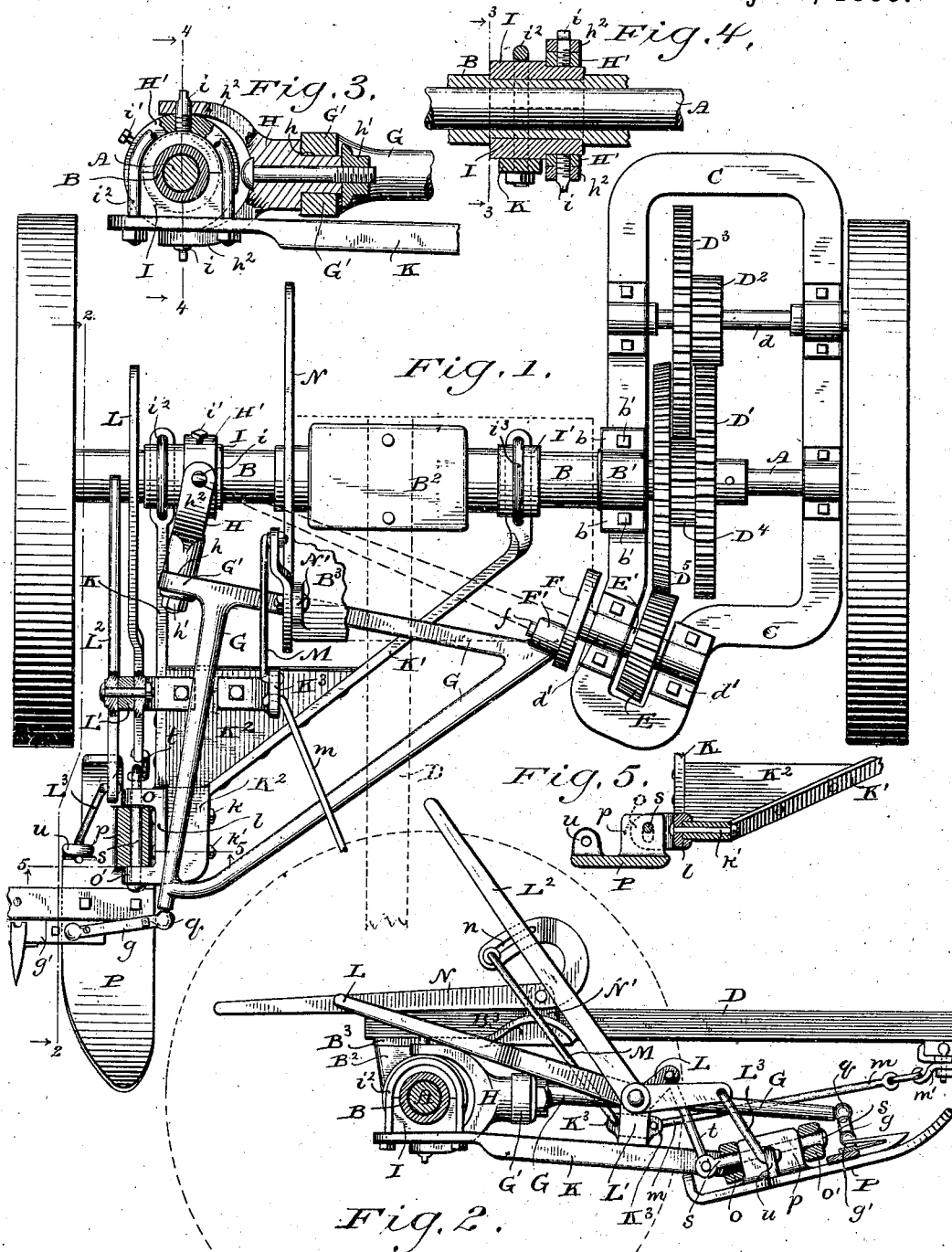


(No Model.)

F. N. VIOLET.
MOWER.

No. 385,979.

Patented July 10, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

FRANCIS N. VIOLET, OF GREEN BAY, WISCONSIN.

MOWER.

SPECIFICATION forming part of Letters Patent No. 385,979, dated July 10, 1888.

Application filed January 17, 1887. Serial No. 224,544. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS N. VIOLET, of Green Bay, in the county of Brown, and in the State of Wisconsin, have invented certain new and useful Improvements in Mowers; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to mowing machines, and will be fully described hereinafter.

In the drawings, Figure 1 is a plan view of my improved mower. Fig. 2 is a side elevation with wheel removed and the axle only shown in section on line 2 2, Fig. 1. Fig. 3 is a detail sectional view on line 3 3, Fig. 1. Fig. 4 is a detail sectional view on line 4 4, Fig. 3. Fig. 5 is a detail sectional view on line 5 5, Fig. 1.

A is the axle.

B is a sleeve that incloses the axle from the inner portion of the main frame C to the opposite or more remote wheel.

B' is a box which is cast with sleeve B and has ears *b b*, by which it is secured firmly to frame C by bolts *b' b'*. The sleeve B has also cast with it a bed, B', for the seat-frame B², to which the tongue D is secured.

The gearing by which motion is conveyed to the operating parts of my mower is inclosed in the frame C, and consists of a toothed wheel, D', the hub of which is fast on the axle A, this wheel gearing with a pinion, D², that carries a toothed wheel, D³, both loose on a short axle, *d*, a pinion, D⁴, loose on axle A, and a bevel-wheel, D⁵, carried by pinion D⁴, which bevel-wheel drives a bevel-pinion, E, the latter fixed on a shaft, E', that has its bearings in boxes *d'* on the frame C.

On its inner end shaft E' carries a wrist-wheel, F, the wrist of which enters a box, F', in one corner of a triangular lever, G, through which motion is conveyed to the pitman *g* of the cutter-bar *g'*; the pitman *g* and the lever G being connected by a ball-and-socket joint at *q*. The third or upper corner of the lever G is formed with a lug, G', through which passes the reduced portion of an arm, *h*, of a yoke or spanner, H, which is loosely secured therein by a nut, *h'*. The arms *h'* of yoke or spanner H loosely clamp a collar, H', that surrounds a box, I, on sleeve B, and these arms are swiveled to box I by pins *i*. A set-screw, *i'*, secures the

collar H' in adjustment on box I, which latter is loosely clamped on a reduced portion of sleeve B by a clip or yoke, *i'*, and thus the lever G is suspended from three points with its lower corner on a plane very slightly higher than that in which the cutter-bar reciprocates. While the yoke H is free to oscillate in the direction of the length of the axle, the collar H' is fixed to the box, and therefore when the box is turned, as will be described farther on, the lower corner of the lever G will be raised or lowered. The cutter-shoe P is suspended from the sleeve B by arms K K', the arm K being secured to box I by the clip or yoke *i'*, and acting with the clip or yoke to clamp the box I on the sleeve, while the other arm, K', is secured to another loose box, I', by a clip or yoke, *i'*, the two arms forming with the sleeve a triangle and clamping between their lower ends a casting, K², to the outer ends of which is secured by bolts *k k'* a removable hinge-piece, L. This hinge-piece is formed with two ears, *o o'*, one of which, *o*, is slotted, as shown in Fig. 2, and the other formed with a double countersunk opening, this slot and opening serving to receive a bar, *s*, which passes through them, and a lug, *p*, of the shoe that projects up between the said ears *o o'*. The rear end of the bar *s* is connected to the front end of a bent lever, L, by a link, *t*, and lever L is fulcrumed to a lug, L', that is bolted to and extends up from the casting K². At its edge opposite the lug *p* the shoe is formed with another lug, *u*, and this is connected to the forward end of a bent lever, L², by a link, L³. Levers L and L² are fulcrumed upon the same axis.

The front portion of the arms K K' is suspended from the tongue and seat-frame, from the former by a link, *m*, the forward end of which is hooked to a clevis, *m'*, on the bottom of the tongue, while its rear end is hooked in a lug, K³, that is bolted to and projects up from casting K², and from the latter (the seat-frame) by a link, M, the lower end of which is hooked in lug K³, and the upper end wristed in a slot, *n*, in the hooked end of the lever N, that is fulcrumed to a lug, N', on the seat-frame. The point of the hooked or short arm of lever N extends back beyond the point of the fulcrum and approaches the long arm, so that when the parts are in position (shown in Fig. 2) the draft

of the link M will be behind the fulcrum of lever N, and the frame, consisting of the arms K and K' and casting K², will be held in its highest working position, while if the lever N be turned forward beyond a vertical position the frame will be dropped to its lowest position.

By means of the link m the draft of the machine is divided between the tongue and the frame K K' K².

It will be observed that the shaft of wheel E, as well as the wrist f on wheel F, points directly to the axis of the yoke H. In other words, lines drawn through the axis of shaft E' and wrist f, respectively, in the direction of the pins i will approach each other and meet at the axis of pins i, and therefore, though the aforesaid shaft and wrist-pin fit snugly in their bearings, there is no liability of cramping, and as the connection between the lever G and the cutter-bar is on very nearly the same plane there is no liability of cramping at that point.

To permit the proper adjustment of the parts is one of the offices of the box I, for as the collar H' is secured about the box by set-bolts i' it can be adjusted to the right or left to carry the box F' nearer to or farther from the wrist-wheel F, or the collar H' can be turned on the box I to lift or drop the lower corner of the lever G. The office of lever L is to tilt the shoe P backward or forward, and the office of lever L² is to tilt the shoe P in such a direction as to raise and lower the outer end of

the cutter-bar. The office of lever N is not only to set the frame K K' K² to suit the height of grain to be cut, but to lift the frame and shoe for the purpose of avoiding obstructions.

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

1. The combination, in a mowing-machine, of an axle and a sleeve loosely fitted thereon, a frame carried by the axle and suitable gearing, a wrist-wheel driven by the axle through the gearing, a triangular lever wristed to said wheel at one corner, a box and swiveled yoke connecting another corner of said lever with the sleeve, and a sickle connected to the third corner, substantially as described.

2. The combination, with the driving-wheel, of the wrist-wheel, the sickle, a triangular lever connecting the sickle and wrist-wheel, a yoke swiveled to the triangular lever, the axle and its sleeve, and a collar to which the yoke is pivoted, said collar adapted to revolve on the sleeve, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

FRANCIS N. VIOLET.

Witnesses:

S. S. STOUT,
MAURICE F. FREAR.