

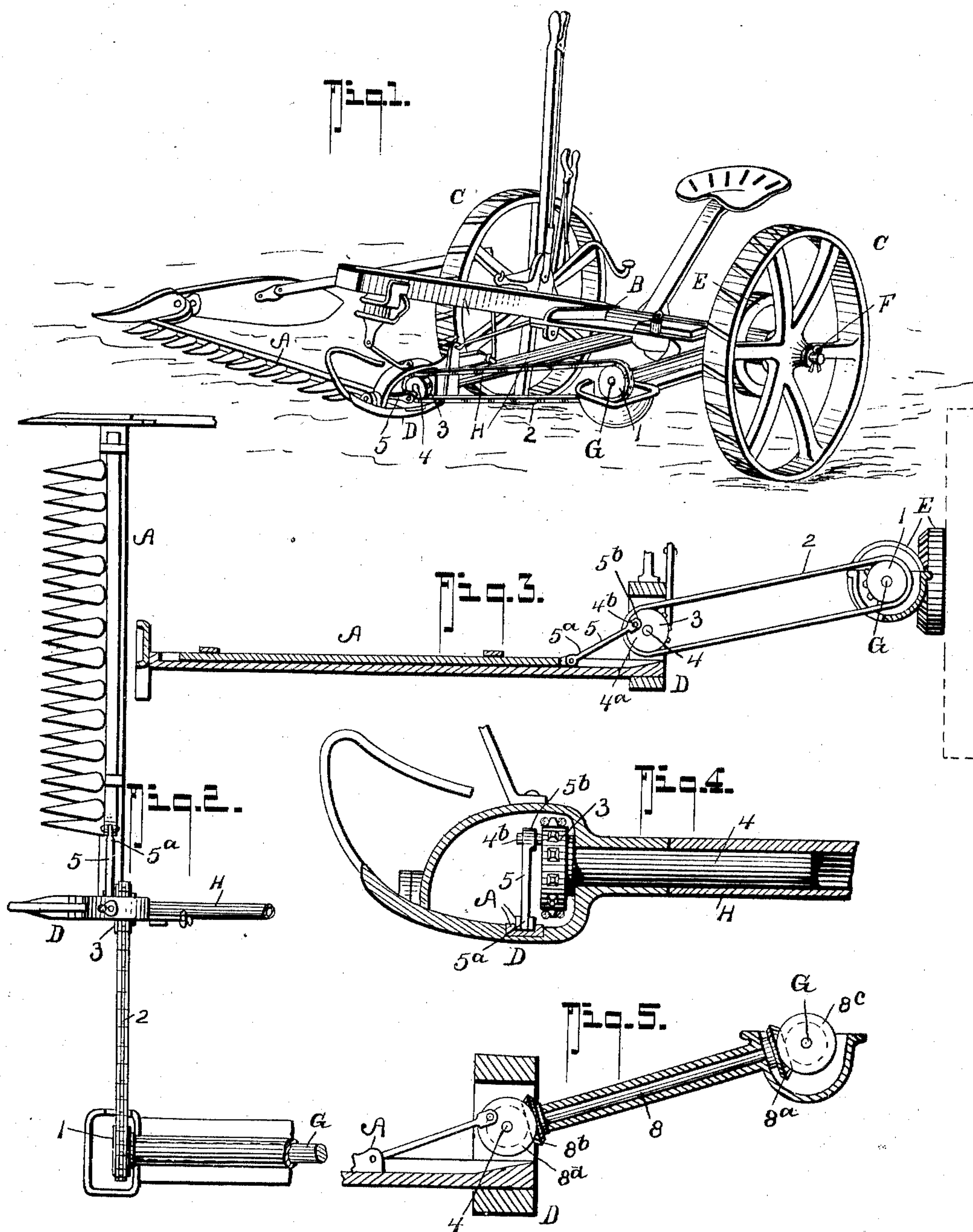
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PATENTED MAY 3, 1904.

W. M. PIATT.
MOWING MACHINE.

APPLICATION FILED JULY 22, 1902.

NO MODEL.



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MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 759,127, dated May 3, 1904.

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To all whom it may concern:

Be it known that I, WILLIAM M. PIATT, residing at West Liberty, in the county of Logan and State of Ohio, have invented certain new and useful Improvements in Mowing-Machines, of which the following is a specification.

This invention is in the nature of an improved means for imparting reciprocal motion to the sickle-bar of a mowing-machine and adapted to join said bar with the rotary drive mechanism in gear with the power-gear on the drive or wheel axle and which is especially designed as a practical, simple, and effectively-operated substitute for the ordinary link member that connects the sickle-bar with the rotary drive mechanism.

My invention comprehends in its generic nature a novel arrangement of endless sprocket-chain and sprocket-gear devices and a flexible joint between the said sprocket-gear devices and the sickle-bar whereby to establish a universal joint for the pitman and the sickle to maintain a constant running of the sickle in any of its positions from the horizontal to the vertical and which are coöperatively so arranged as to be readily applicable to any of the well-known or commonly-manufactured mowing-machines.

In its more subordinate features, my invention consists in certain novel details of construction and peculiar combination of parts, all of which will hereinafter be fully described, and specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a mowing-machine equipped with my improvements. Fig. 2 is a plan view of a portion thereof, illustrating the front end of the rotary drive-shaft, the sickle-bar, and my improved means for transmitting motion from the rotary shaft to the sickle-bar. Fig. 3 is a front elevation thereof, parts being in section. Fig. 4 is a detail section on the line 4-4 of Fig. 3 and illustrating the manner in which the tubular brace or arm is utilized as a bearing for the crank-shaft which forms a part of my improved driving mechanism. Fig. 5 is a detail view of a modified form of my invention, herein-after referred to.

In the drawings, A designates the sickle; B, the main frame; C, the drive-wheels; D, the shoe; E, the drive-gearing that is joined with the drive-axle F, and G, the rotary drive-shaft which forms a part of the said drive-gearing. All of the parts specified may be arranged in any well-known or approved manner, as they *per se* form no part of my invention.

When my improvements are applied, the usual crank or eccentric disk on the outer end of the shaft G is dispensed with, and an ordinary sprocket-wheel 1 is substituted therefor, and the usual form of pitman-bar that joins the eccentric or crank on the rotary shaft in the ordinary construction of mower referred to is also dispensed with, and in lieu thereof an endless sprocket-chain 2 is employed, which engages the sprocket-wheel 1 on the shaft G, and a sprocket-wheel 3, fixedly mounted on the outer end of a shaft 4, journaled in the tubular brace member H, which is usually provided to brace the shoe D with the main frame. The shaft 4 carries at its outer end a crank-disk 4^a, which may be an integral part of the sprocket 3 or separately mounted on the shaft 4 to turn therewith, and, with the wrist or crank pin 4^b of the said disk, joins one end 5^b of a short pitman 5, the other end, 5^a, of which pivotally connects with the sickle-bar, as clearly shown in Fig. 3.

By providing an endless chain gearing and joining the sickle-bar through the medium of the short pitman that travels substantially in the horizontal plane of the sickle a simple and effective means is produced for operating the sickle continuously during the various shifting of its position from the horizontal to the vertical. Furthermore, the arrangement of the several parts is such that they are applicable to any well-known mowing-machine, and the said parts are held to run from the point of the vertical crank wheel or disk on the rotary shaft G and to rotate a crank-shaft mounted in the longitudinal plane of the pivotal axis of the shoe-joint, thereby providing, as it were, means for uniformly operating the sickle at its different positions and at the same time maintain a universal balance of the machine, which result is obtained by having the gear that imparts direct motion to the sickle

between the center and the outside drive-wheel, and thereby substantially counterbalance the two drive-wheels, counteract the friction of the finger-bar on the earth and at the same time retain the desired points of draft to properly direct the finger-bar to its work and also retain a center draft for the team.

While the arrangement of my mechanism shown and hereinbefore described is a preferred one, I desire it understood I do not limit myself to the exact details shown and described, as these may be modified without departing from my invention and the scope of the appended claims. For instance, instead of utilizing an endless chain between the crank-gears 1 and 3 a rotary shaft 8 may be provided which has beveled gears 8^a 8^b, held to mesh with beveled gears 8^c 8^d on the shafts G and 4, as shown in Fig. 5.

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

1. In a mowing-machine, the combination with a drive-axle, a rotary shaft geared therewith and mounted in the horizontal plane of the drive-axle, said shaft carrying a gear-wheel at its forward end, a tubular brace-bar connected to the mower-frame, a sickle-bar, and the inner shoe, of a short stub-shaft extending into the tubular brace-bar and through the inner shoe to form a pivot portion for

said shoe, a gear-wheel mounted on the outer end of said short stub-shaft, and gear connections joining said gears on the stub-shaft and the rotary shaft, the gear on the stub-shaft having a wrist-pin, and a pitman joined with the said wrist-pin and the sickle-bar, all being arranged substantially as shown and for the purposes specified.

2. In a mowing-machine, the combination with the drive-axle, a rotary shaft geared therewith and mounted in the horizontal plane of the drive-axle, said rotary shaft having a gear-wheel at the end opposite that gearing with the drive-axle, a tubular brace-bar connected to the mower-frame, a sickle-bar, and the inner shoe; of a short stub-shaft extending into the tubular bar and through the shoe to form a pivoted portion and support for said shoe, a sprocket mounted on the outer end of said short stub-shaft and being geared to the sprocket on the first-mentioned rotary shaft, said sprocket on the stub-shaft being provided with a wrist-pin, and a pitman joining with said wrist-pin and the sickle-bar, all being arranged substantially as shown and described.

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