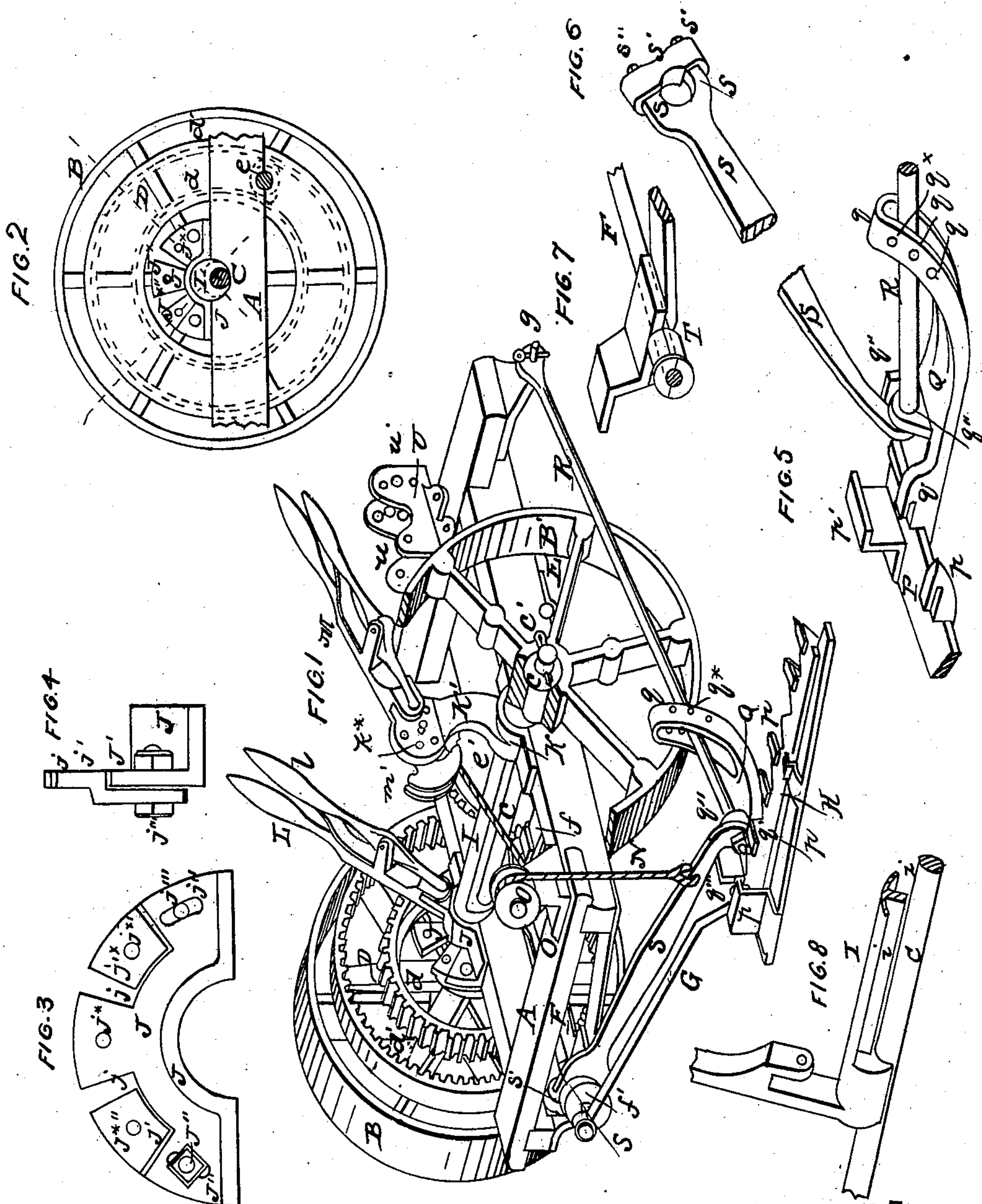


W. COGSWELL.

Harvester.

No. 96,311.

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WITNESSES
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WILLIAM COGSWELL, OF OTTAWA, ILLINOIS, ASSIGNOR TO HIMSELF AND
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IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 96,311, dated November 2, 1869.

To all whom it may concern:

Be it known that I, WILLIAM COGSWELL, of Ottawa, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Combined Reapers and Mowers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which are made part of this specification.

My improvements relate, first, to the manner of shifting the driving-gear, to produce a fast or slow motion of the sickle; second, to an improved construction of and mode of forming the device for holding the shifting-lever; third, to a novel construction of shoe for supporting the cutter-bar, and for the attachment of the draw and push bars thereto.

Figure 1 in the drawings represents a perspective view of a reaping and mowing machine embodying my improvements, a portion of the near ground-wheel being broken away to expose parts behind, and the draft-pole, driver's seat, and other parts omitted. Fig. 2 is a diagram of the driving-wheel, gearing, and some of its adjuncts, illustrating the manner of shifting gear. Figs. 3 and 4 represent, respectively, a front or face view and an edge view, on an enlarged scale, of the combined cap and device for adjusting the shifting-lever. Figs. 5, 6, 7, and 8 are detached sectional perspective views of various parts, representing details, hereinafter specified.

A, Fig. 1, represents a frame of suitable form, dimensions, and material, adapted for the reception of the various parts to be supported thereby, and mounted on a pair of wheels, B B', the former of which also constitutes the driving-wheel of the machine, being keyed fast to its shaft or axle C, which extends across the frame for the support of the other ground-wheel, B', which is mounted loosely thereon, and held in place by the customary washer *c* and linchpin *c'*, or other suitable means. Said shaft C has further secured on it, for the purpose of imparting its motion to the cutting mechanism at different rates of speed, a gear-wheel, D, constructed with the customary outside and inside gears *d d'*, arranged at such distances apart as to adapt them to be both held out of mesh with the

pinion with which they engage, when it is desired to stop the motion of the sickle, as in passing to and from the field. Said pinion is keyed on the end of a shaft, E, mounted in suitable bearings transversely of the frame, and carrying, at a suitable point within the frame, a bevel-gear, *e'*, meshing with a corresponding wheel, *f*, on the inner end of a longitudinal shaft, F, which also carries at its outer end a crank-wheel, *f'*, the wrist of which is connected, by a pitman, G, to the sickle-bar E in the usual manner. The shaft or axle C is mounted eccentrically in a cylindrical box, I, which extends across the frame, and is journaled in suitable bearings at the sides thereof, and may be recessed or cut away inside of the frame, or between its bearings, as represented at *i i*, Figs. 1 and 8, to secure lightness. The bearings of said eccentric box I are covered by caps J K, both of which are made also to serve other useful purposes, or to possess other functions, hereinafter described. The cap J is provided, on its outer edge, as shown most clearly in Figs. 3 and 4, with a perpendicular or radial flange, J', notched or recessed, as shown at *j j*, for the reception of separate sections *j' j'*, and provided with elongated slots *j''*, for the reception of the bolts *j'''*, by which said separate sections *j'* are attached, to allow of their adjustment, as clearly shown in said figures. It is further provided in its body, and in the adjustable sections *j' j'*, and concentric with the bearing of the eccentric box I, with three holes or sockets, *j* j* j**, for the reception of the latch of the shifting-lever in its different positions.

L, Figs. 1 and 8, represents the shifting-lever, which projects rigidly from the eccentric box I, preferably diagonally opposite the shaft G, and which is of the usual construction, being suitably recessed for the reception of the flange J', and provided with a spring-catch, *l*, for engagement with the perforations *j* j* j** in said flange, as represented in Fig. 1.

When the lever L is held at *j** the shaft G of the driving-wheel is held in the position represented in black in the diagram, Fig. 2, and the gears *d* and *d'* of the wheel D both out of mesh with the pinion *e*. On the lever being changed to *j**, as represented in Fig. 1

and by the red line in Fig. 2, the shaft G will be thrown behind the center of its eccentric box I, and the inside gear d' brought into mesh with said pinion e , as indicated by the red outline in Fig. 2, a rapid motion being then imparted, by the rotation of said wheel D, to the sickle, through the described connections. When held at $i^{*''}$, as represented by the blue line in Fig. 2, the shaft will be thrown in front of the center of the eccentric box, and the gear d brought into mesh with the pinion e , as indicated by the blue outline in said figure, the same movement of the machine then imparting a comparatively slow movement to the sickle.

The adjustability of the sockets $j^{*'}$ and $j^{*''}$, in which the shifting-lever is held, with the gear in mesh, adapts the movement of the lever, and, by means of it and the eccentric box of the shaft of the driving-wheel, to be varied as the condition of the machine may require, any wear on the bearings or journals being thus compensated for by setting the gears d and d' more deeply in mesh with the pinion e .

The cap K of the eccentric box I is extended, and made to form a bracket, K' , which terminates in a segmental plate, k , in the center of which is pivoted the lever M, for elevating the finger-bar, said plate being further provided, concentric with said pivot, with a number of perforations, k^* , for the reception of the spring-catch m of said lever. The lever M may be, beyond its pivot, of the same construction as that employed for shifting the gearing, and before described, or any other suitable form, and is provided on its lower or short end with a segmental pulley, m' , at the front extremity of which is attached a cord or chain, N, which, passing over pulleys O.O', is attached to the push-bar, to which the finger-bar is hinged in the usual manner, and as represented in Fig. 1.

P, Figs. 1 and 5, represents the finger-bar, which is provided with the usual fingers p , and supports or guides p' for the sickle H, which is mounted therein, as represented in Fig. 1. Said finger-bar is further provided at its hinge end with a shoe, Q, which is constructed with an upturned front end, q , slotted for the reception of the draw-bar, and perforated transversely of said slot with a number of perforations, q^* , for the reception of a bolt or pin, to support the finger-bar in a horizontal position when elevated in cutting grain, or to elevate the front edge of said finger-bar to any desired extent when cutting on ground where there are "ant-hills" or other similar obstructions. Said shoe is further provided with a projection, q' , to assist in supporting and guiding the sickle, and with a perforated lug, q'' , for the attachment of the draw and push bars, and a stop, q''' , for engagement with the latter in the elevation of the finger-bar through said connection.

R and S, Figs. 1, 5, and 6, represent, respectively, the draw and push bars, by which the finger-bar is attached to the frame. The

draw-bar R is hinged on a horizontal pivot, r , at the front end of the machine, and passing through the slotted upturned end q of the shoe Q of said finger-bar, where it is cylindrical, as shown, to allow the cutter-bar to turn freely thereon, is hinged or swiveled in the axial perforation in the stud q'' of said shoe. To support the finger-bar when desired, and at any desired inclination, a bolt or pin is placed through one or the other of the perforations q^* of said shoe. In cutting grass on smooth ground this bolt or pin is removed, so as to allow the finger-bar to move freely and unconstrained on the surface of the ground. The push-bar S is preferably hinged on the projecting end of the draw-bar, as represented in Figs. 1 and 5, and is attached at its upper end to a stud-shaft, T, Fig. 7, formed by a continuation of the box of the crank-shaft F, and concentric therewith. Said bar, for attachment to this stud, is bifurcated, as represented at s , and the members of said fork, extending through a bar or cap, s' , are secured by the reception of screw-nuts s'' . The entire strain on said push-bar is sustained by the rigid stud T, and is not imparted in the least degree to the crank-shaft, which would be objectionable.

Making the attachment of the push-bar concentric with the shaft, by which the motion is imparted to the sickle, I am enabled to keep the sickle in the same relative position to the fingers, whether the finger-bar be resting on the ground or at its highest cut, or in case of either of the ground-wheels dropping into a hollow or passing over a ridge, or both to the respective wheels at the same time. With the push-bar attached at any other point the relative position of the sickle to the fingers is, by any variation in the height or inclination of the finger-bar, changed to a greater or less extent, and a full cut of the sickle is prevented.

U, Fig. 1, represents a bracket or clevis provided at the front end of the frame A, for the attachment of the draft-pole, the perforation u being for the reception of its hinge-bolt, and the perforations u^* for the reception of a supplementary bolt or pin to adjust the inclination of the pole, as required.

Although I have primarily intended my several improvements for employment combinedly to form an improved machine, as described, the several parts may be employed separately in connection with different mechanism for the other purposes. The precise forms named for many of the parts may also obviously be varied without departing from my invention.

Having thus described my invention, the following is what I claim as new, and desire to secure by Letters Patent:

1. In combination with the shaft C and driving-gearing $d d' e$, the box I, eccentric to the said shaft C, and adapted for independent motion or adjustment thereon, substantially as and for the purposes explained.

2. The flange J', formed on the cap J of the bearing of the eccentric box I, and provided

with the holes or sockets j^* $j^{*'} j^{*''}$, for the engagement of the catch of the shifting-lever in the three positions of the gearing, substantially as set forth.

3. The flange J' , constructed with the separate adjustable sections or slides j' , for the reception of the holes or sockets $j^{*'} j^{*''}$, substantially as described, for the purposes set forth.

4. The combination, with the shoe Q , of the

upturned front end q , having a vertical slot for the reception of the drag-bar, and transverse perforations q^* for the reception of an adjusting-pin, as set forth.

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Witnesses:

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