

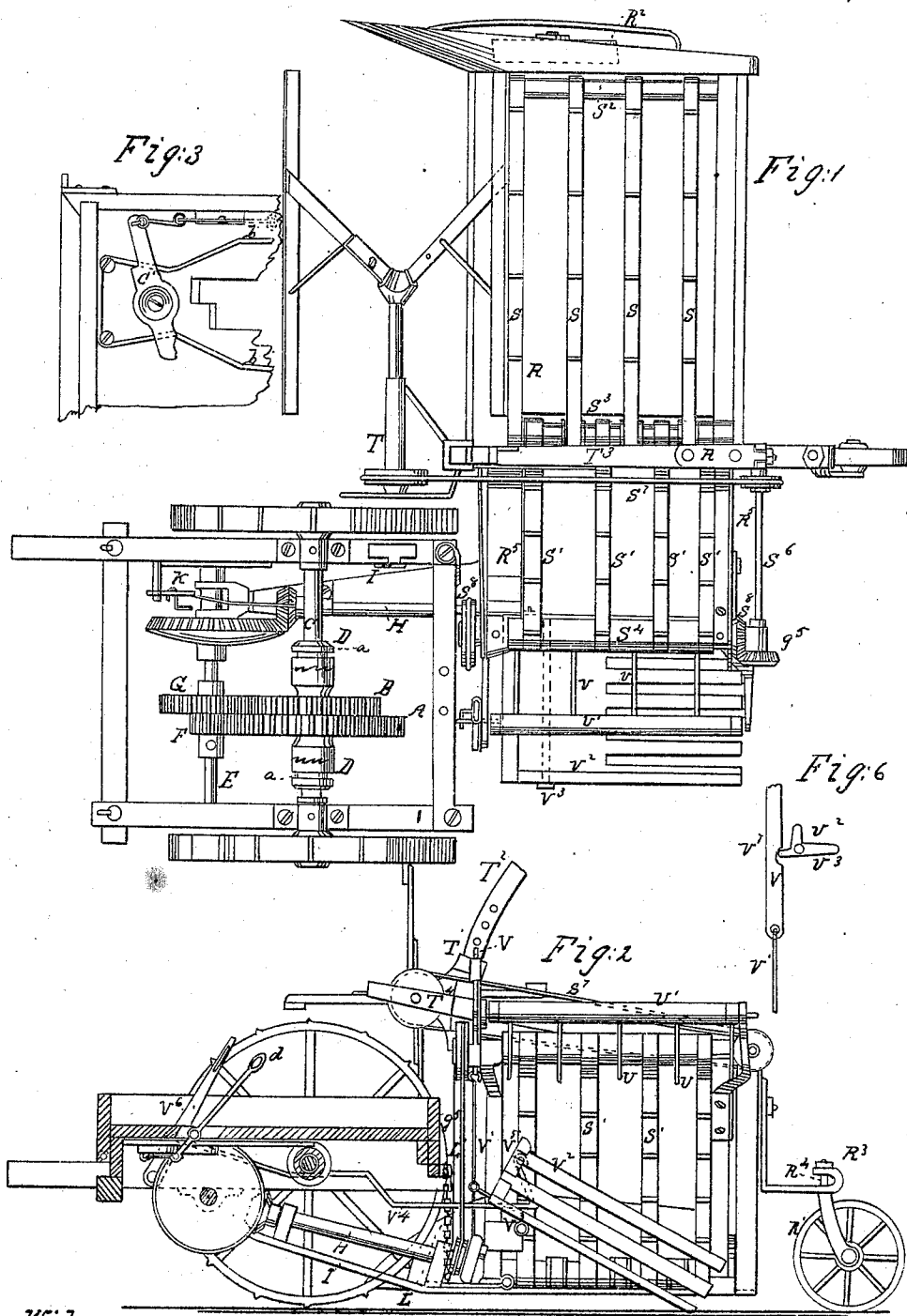
Sheet 1- 2 Sheets

Sheline & Burke.

Harvester Dropper.

Nº 97556

Patented Dec. 7, 1869



Witnesses

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Inventors

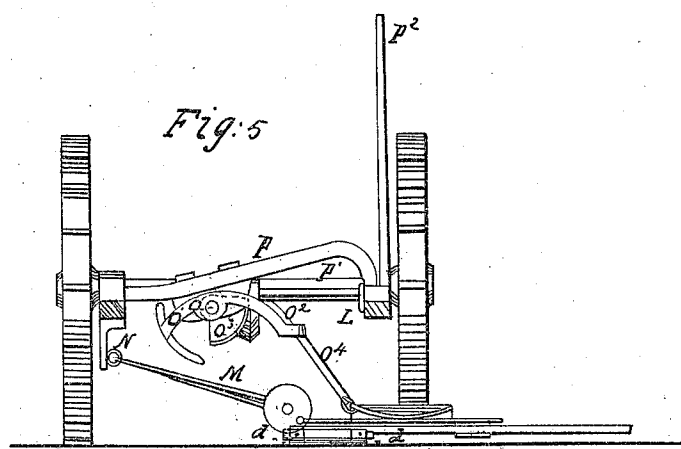
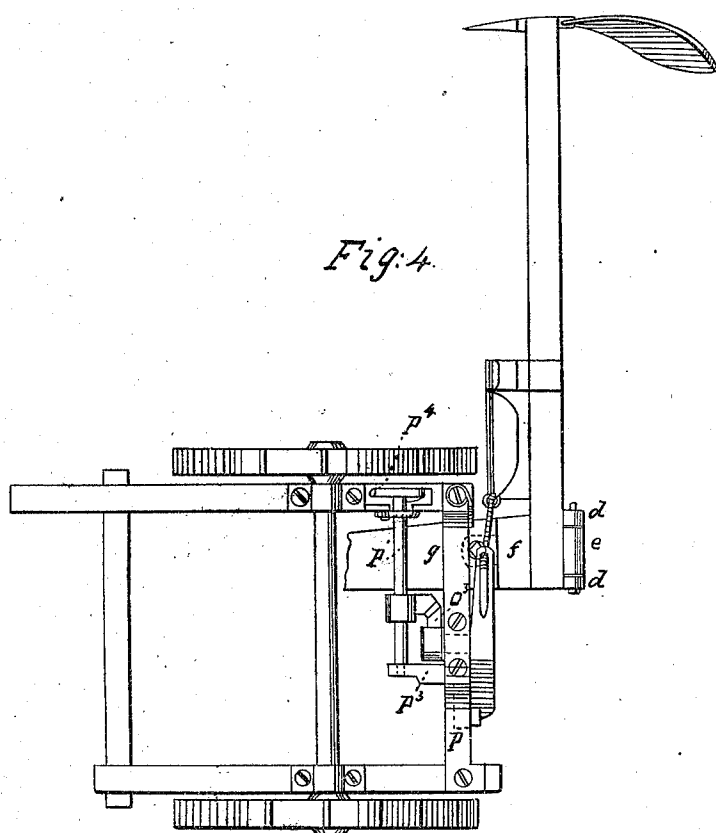
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UNITED STATES PATENT OFFICE.

A. SHELINE AND E. BURKE, OF EDON, OHIO.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 97,556, dated December 7, 1869.

To all whom it may concern:

Be it known that we, A. SHELINE and E. BURKE, of Edon, in the county of Williams and State of Ohio, have invented a new and Improved Reaper and Mower; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The object of this invention is to provide certain improvements in the operating-gear of reaping and mowing machines, calculated to furnish more useful and efficient machines than those now in use.

The invention consists in an improved arrangement of the driving-gear and clutching and unclutching devices; also, in an improved arrangement of attaching devices for the mower; and also in an improved arrangement of side-dropping devices for the reaper and adjusting devices for the reel, all as hereinafter more fully specified.

Figure 1 represents a plan view of our improved machine when the reaping attachment is connected. Fig. 2 represents a longitudinal section through the driving-gear and side elevation of the reaping and side-dropping devices. Fig. 3 represents a plan view of a part of the truck, showing the clutching and unclutching devices. Fig. 4 represents a plan of a part of the truck and the mower, showing the manner of attaching it. Fig. 5 represents a rear view of the same, and Fig. 6 represents a detail view of the dropping device.

Similar letters of reference indicate corresponding parts.

We place two gear-wheels, A B, of different size, on the driving-shaft C, connected to one hub, and capable of working loosely on the said shaft. We use these two wheels to obtain the different speeds required for the reaper and mower.

D represents clutches, one to each end of the hub. They have grooves *a*, into which springs *b* take to move them to or from the hub of the wheels. They are moved into connection with the hub by the natural force of the spring, which is constructed to have this effect. The opposite movement is effected by

button C' working between the two springs and operated by a hand-lever, *d*, rising up through the platform at the left of the operator.

The counter-shaft E is provided with pinions F G, corresponding to the driving-wheels, and arranged to be slipped on the shaft for gearing or un gearing with the said driving-wheels, and to be held by set-screws.

H represents the pitman-shaft, deriving motion from the counter-shaft by suitable bevel-wheels, and arranged in suitable bearings on the drag-shoe I, one end of which is pivoted on a tubular bearing, K, on the end of the counter-shaft. The other end either rests on the ground or is suspended by a chain, L, from the hook L' at one corner of the machine. The rear end of the pitman-shaft is braced by braces M jointed to the frame at N and taking around the shaft at both ends of the bearing, so as to permit the raising or lowering of the rear end of the said shoe. The arrangement of the shoe is such at the connection of the counter-shaft as to permit the shoe to oscillate around its longitudinal axis. The said shoe has therefore free oscillation on its own axis and on that of the counter-shaft. The rear end of the shoe is provided with eyes *d* for forming hinge-joints with barrels *e* on the cutter-bars of both the mowers and reapers. These cutter-bars are provided with right-angled plates *f*, arranged to lie upon the upper face of the shoe when hinged thereto, as shown in Fig. 4. The ends of the plates project under a clamping-loop, *g*, having a clamping-screw screwing down upon them to hold them rigidly. Another screw screws through the said plates against the shoe, and by these screws the pitch of the cutter-bars and the fingers relatively to the ground may be regulated. We only require to make use of this adjustment, however, in the case of the mower.

For raising the mower-heel to carry it over stones or other things, we employ a shaft, O, having arms O¹ O² at one end and a segmental bevel-gear, O³, at the other, and suitably journaled in the rear cross-bar P of the truck. To the arm O² of this shaft the mower-bar is connected by a cord or chain, O⁴, so that when the shaft is oscillated it will raise the mower-bar.

For oscillating the said shaft another shaft, P¹, also having a segmental bevel-gear, is provided; and this shaft has a lever, P², rising up from one corner of the truck-frame. This shaft is borne at one end in the fixed bearing P³, and the other rests in a recess in the top of the beam P, so arranged that the shaft may be readily put in or taken out. The shaft O is also readily removed by taking off the bearing for the same attached to the bar P by screws. These devices are used only with the mower, and are therefore thus detachably arranged.

The reaper-bar is provided with the customary apron R, and has a caster-wheel, R¹, at the rear; also, another, R², at the outer side. The latter is journaled in a lever which may be adjusted to different heights, and the former is adjusted by a nut, R³, and screw-stem R⁴.

At the front side of the apron R an inclined extension, R⁵, is provided, up which the grain is carried by belts, two sets of which, S and S¹, are employed. The former works over rollers S² and S³ at each end of the apron R, and the latter works over the roller S³, and another, S⁴, at the top of the apron R⁵. Motion is imparted to the roller S⁴ by a chain or cord, S⁵, driven by a pulley on the pitman-shaft H at its lower end, and the belts S¹ operate the roller S³, whereby the belts S are operated. The roller S⁴ drives the reel T through the medium of bevel-gears S⁶, shaft S⁶, and a cord, S⁷, working over pulleys on the shaft and on the reel. The said reel is supported on a bearing, T, fitted to slide up and down on a post, T², curved from an axis coinciding with that of the shaft S⁶. The adjustment of the reel may therefore be effected without disturbing the tension of the belt S⁷.

The bearing T is provided with a radial bar, T³, pivoted at the axis of the shaft S⁶. This bar carries a spring-lever, T⁴, with a pin taking into holes in the post to hold the reel at any required height. The adjustment may be made by the operator at any time as the machine moves along.

The grain is delivered from the belts S¹ over the roller S⁴ into the curved arms U of a cut-off, of which U¹ is the shaft, supported in suitable bearings in front of the roller S⁴. This shaft U¹ is provided at one end with a right-angled dog, U², having a projecting point, U³.

V represents a vertical slide connected by a rod, V¹, with the dropper V² pivoted on the bolt V³. V⁴ represents a rod connected to the dropper at V⁵, (shown dotted,) and running forward to a hand-lever, V⁶, rising up through the platform near the seat for the operator. By the movement of this rod forward the dropper will be thrown up into the position for receiving the grain from the cut-off, and this upward movement will draw the slide V downward, so that a notch, V⁷, therein, coming down to the point V³, will afford room for the latter to swing, and allow the arms V of the cut-off to fall and discharge the grain into the dropper. The reverse movement of the hand-lever V⁶ throws the rear end of the dropper down to discharge the grain. The other end of the dropper, moving upward, carries the slide V up, turning the dog V² up, and restoring the arms of the dropper to the position for receiving and holding the grain.

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

1. The arrangement of the gear-wheels A B, clutches D on the driving-shaft C, pinions F G, counter-shaft E, clutch-springs b, button C', and hand-lever, all substantially as specified.

2. The arrangement of the tubular bearing K, shoe I, pitman-shaft H, and braces M, substantially as specified.

3. The combination, with the truck and the mower-bar, of the shaft O, arms O¹ O², segmental beveled wheels, shaft P, and lever P², when arranged substantially as specified.

4. The arrangement of the belt S⁵, shaft S⁴, pitman-shaft H, wheels S³, shaft S⁶, belt S⁷, with the reel-shaft and pulley thereon, substantially as specified.

5. The arrangement of the curved post T², slide T¹, radial bar T³, and spring-stop T⁴, substantially as specified.

6. The combination, with the elevator, of the cut-off U U¹, dropper V², slide V, dog U², rod V¹ and rod V⁴, all substantially as specified.

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