

(No Model.)

W. HANNUM.  
SULKY HARROW.

No. 246,763.

Patented Sept. 6, 1881.

Fig. 1.

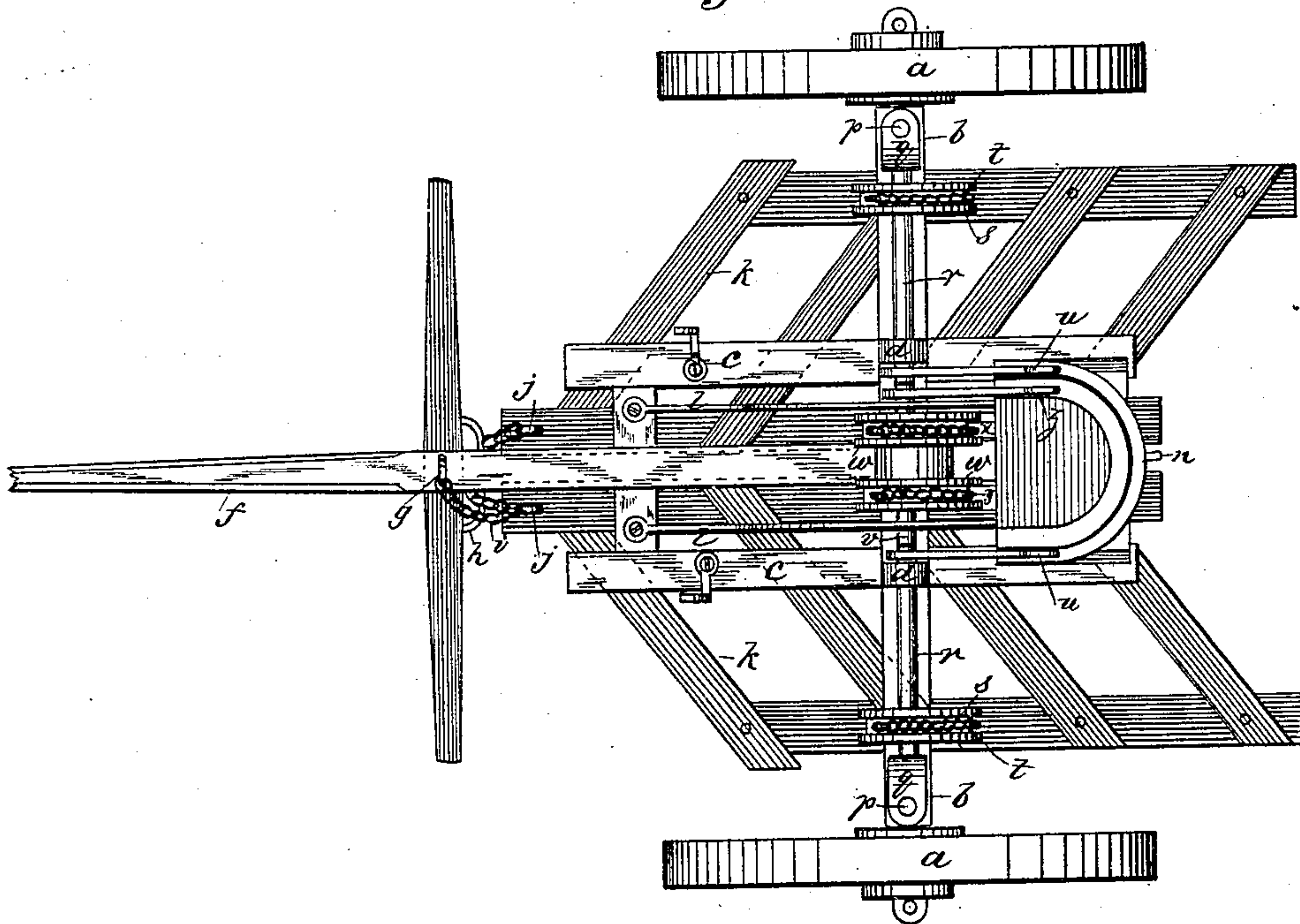
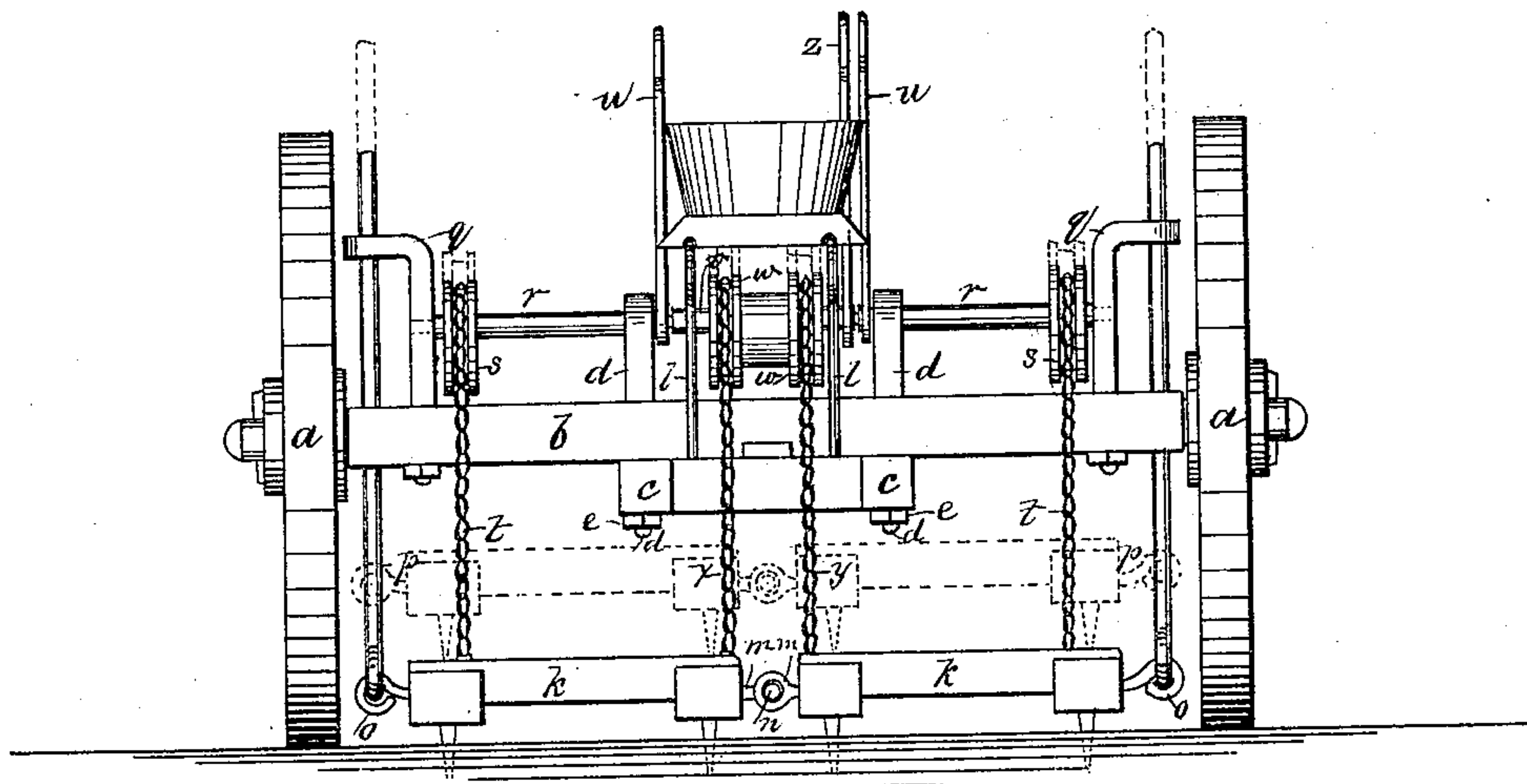


Fig. 2.



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# UNITED STATES PATENT OFFICE.

WILLIAM HANNUM, OF MOUNT GILEAD, OHIO.

## SULKY-HARROW.

SPECIFICATION forming part of Letters Patent No. 246,763, dated September 6, 1881.

Application filed July 9, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HANNUM, of Mount Gilead, in the county of Morrow and State of Ohio, have invented a new and useful Improvement in Sulky-Harrows; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of my improved sulky-harrow. Fig. 2 is a rear elevation.

My invention relates to improvements in sulky-harrows; and it consists of a harrow composed of two wings or sections hinged to each other, provided with guide-rods and suspended from the axle, and three independent shafts journaled in standards secured to the axle, and provided with levers and eccentrics carrying chains secured at their lower ends to the harrow-sections near their outer and inner edges, whereby the central portion of the harrow or either harrow-section can be raised or lowered independently of the other section to avoid obstructions, or both sections can be raised or lowered when desired, as hereinafter more fully set forth.

In the accompanying drawings, *a a* represent the wheels of my improved sulky-harrow, connected together by the axle *b*, in the usual manner.

*c* represents a frame, secured to the under face of the axle by means of uprights or standards *d*, cut away and rounded from their middle to their lower ends, and screw-threaded near their lower ends, and passed through holes in the axle and frame *c*.

*e e* represent nuts secured to the lower ends of the threaded standards *d*, by which construction the sulky-frame is securely attached to the axle.

*f* represents a pole, secured to the frame *c* and provided with an eyebolt, *g*, depending from the pole and passing through a hole in the middle of the double-tree, the back face of which is provided with a staple, *h*, through which a chain, *i*, passes, the chain being secured to the eyebolts *j j* of the harrow-sections *k k* near their forward ends, and its upper end attached to the eye of the bolt *g*, depending from the pole.

*l l* are parallel supporting-rods for the seat.

The rods *l l* are secured to the upper face of the frame *c*, and their horizontal parts are adapted to fit in grooves in the lower face of the seat-frame, whereby the seat may be slid back and forth to adjust the seat to the weight of the driver.

The harrow-sections *k k* are each provided with eyebolts *m m*, projecting from the inner faces of their inner longitudinal bars and lying opposite each other. Through the eyes of the bolts *m* a rod, *n*, is passed, whereby the two harrow-sections are hinged or pivotally secured to each other.

*o o* represent eyebolts secured to the outer longitudinal bars of each harrow-section, opposite each other and under the axle.

*p p* represent guide-rods secured in the eyes of the eyebolts *o*, thence passing vertically upward through holes in the axle, and thence through holes in the upper ends of angular standards *q*, secured to the axle.

*r r* represent horizontal shafts, journaled in the standards *d q* on each side of the central longitudinal line of the machine. Each shaft *r* carries an eccentric, *s*, near its outer end, having a grooved periphery, in which is fastened one end of a chain, *t*, which passes partly around the eccentric, and is secured to a harrow-section near its outer edge.

*u u* represent levers, each secured to the inner end of one of the shafts *r*, by means of which the driver in his seat can raise or lower the outer edge of either harrow-section independently of the other to avoid obstructions, or for other purposes.

*v* represents a horizontal shaft, the ends of which are reduced and have their bearings in end recesses in the shafts *r r*. The shaft *v* carries two eccentrics, *w w*, having grooves in their peripheries for the reception of the chains *x y*, secured at their upper ends in the grooves in the eccentrics *w*, and each chain, at its lower end, is secured to one of the harrow-sections.

*z* represents a lever, secured to the horizontal shaft *v*, and extending up near the driver's seat, whereby the driver can, by operating said lever, raise or lower the inner parts of both harrow-sections at the same time.

By the above-described construction it will be seen that the outer edge of each harrow-section may be raised or lowered independently

of the other to avoid obstructions, or that the central part of the harrow alone may be raised or lowered, or that both harrow-sections may be raised or lowered bodily, to avoid obstructions or in going to and returning from the field.

I claim as my invention—

The combination, with the hinged harrow-sections *k k*, provided with the guide-rods *p p*, passing through holes in the axle, of the inde-

pendent shafts *r r*, carrying the eccentrics *s s* and levers *u u*, chains *t*, independent shaft *v*, carrying the eccentrics *w w* and lever *z*, and chains *x y*, secured to the eccentrics *w* and the harrow-sections, substantially as described, and for the purpose set forth.

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Witnesses:

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