A. J. HODGES.

GRAIN HEADERS.

No. 183,851. Patented Oct. 31, 1876.

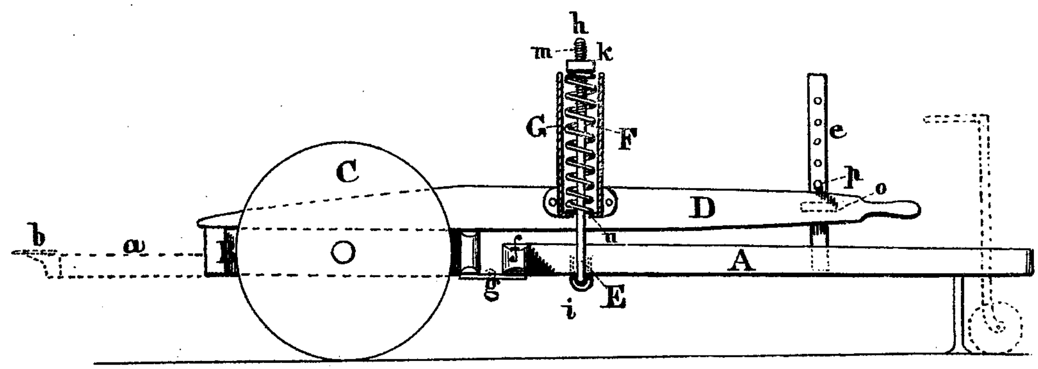

Fig. 1.

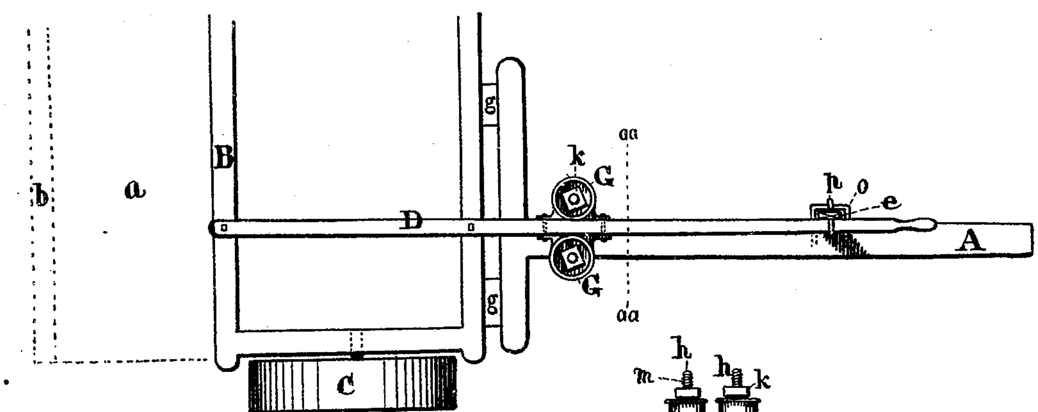

Fig. 2.

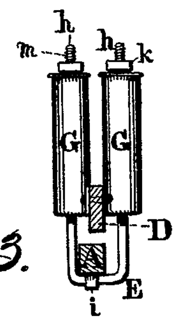

Fig. 3.

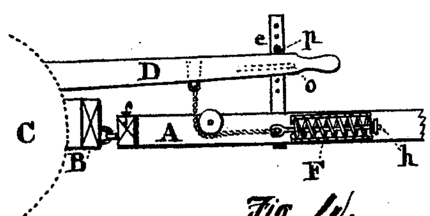

Fig. 4.

Witnesses
Thomas Foster.
V. A. Vidal.

Andrew J. Hodges,
by E. Thurston Atty in fact

UNITED STATES PATENT OFFICE.

ANDREW J. HODGES, OF PEORIA, ILLINOIS.

IMPROVEMENT IN GRAIN-HEADERS.

Specification forming part of Letters Patent No. **183,851**, dated October 31, 1876; application filed September 4, 1876.

To all whom it may concern:

Be it known that I, ANDREW J. HODGES, of the city of Peoria, in the county of Peoria, in the State of Illinois, have invented an Improvement in Heading-Harvesters for cutting grain, &c.; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a longitudinal elevation of the machine, (a common heading-machine,) with a vertical section of the spring-connections; Fig. 2, a plan; Fig. 3, a rear elevation of springs, rods, &c.; Fig. 4, another form of spring-connection between the tongue and the frame-lever.

The object of this invention is to balance the main frame (which has a tendency to be tilted forward by the attached weight of the grain-platform, &c.) in such a manner as to enable the operator to raise and lower the sickle and reaping-platform with ease and precision, and control the machine so that the horses cannot cause said platform and frame, by its weight and consequent downward tendency, to overbalance said operator and raise him off his feet when he attempts to raise or lower said platform and sickle—a state of thing consequent on the usual form of heading-machines.

To accomplish the above-described object, I employ a strong spring or springs, as an elastic connection between the tongue or thrust-bar of the machine and the frame-lever, at the most effective point—*i. e.*, between the main frame and the tongue or its cross-bar. This spring may be formed and applied in various ways; but each should have a provision for the adjustment or proper balancing of the platform—as, for instance, a nut and thread on a central rod, to regulate the tension of the spring. One of the modes in which I accomplish this object is as follows: I use a strong spring or springs inclosed in a case or cases, if necessary, the lower end of which spring and the case is attached to the frame-lever. Said spring is coiled around a rod or rods, whose lower end is jointed to the tongue or thrust-bar of the machine below. The upper end of the spring or springs abuts against a nut or nuts (or thumb-screw) at the free end of the rod, said spring being attached below, either to the said lever or to a fixed point within the case. This elastic connection between the tongue and the lever may be equally well managed by reversing the mode of attaching the spring—viz., attaching the spring or springs to the tongue, and the rod (or rods passing through the spring or springs) to the lever. Another form in which I use the spring and attach it is by using a chain or rope with or without the central rod, running from the spring attached to one of the mentioned parts of the machine to the other, as shown in Fig. 4, the chain being conducted around a pulley or friction-roller. This form, and those described before, do not contemplate the doing away with the usual adjusting-bar *e*. This may or may not be used as an auxiliary aid in steadying and equalizing the motion and adjusting the balance between the frame and the tongue.

In the drawings, which represent one of the forms in which I construct this device, A represents the tongue, bearing the usual adjusting-bar *e*, and cross-bar *f*, next to the frame B; *g*, the joint between the tongue and the frame B; C, the supporting-wheels; *a*, grain-platform; *b*, the sickle; D, the frame-adjusting lever. E represents a double or bent rod, having parallel upright arms *h h* passing upward on either side of said lever D, being hinged or pivoted at the loop or lower end to the tongue A in a staple or eye, *i*, so as to play freely backward and forward in following the motion of the lever D. F F are strong spiral springs, each coiled around one of the arms of said rod E, the lower ends of each abutting against a shoulder, *n*, at the bottom of their respective inclosing-cases G G, which are each attached by means of lugs and bolts to each side of the lever D. The upper end of each spring abuts against a separate nut or thumb-screw, *k k*, working on a thread upon the free or upper end of each rod-arm *h* near the mouth of each case G G.

The operation of this invention is as follows: This spring-connection between said lever D and the tongue A prevents or destroys the sudden jerking oscillation or tilting of the

frame B *a*, (produced on uneven ground, or from the unequal motion of the draft-animals,) placing the frame well under the control of the operator, and preventing him from being overbalanced or jerked off his feet at such times. The end of the lever D is adjusted, as usual, to the detent-post *e*, to prevent too great strain on the springs, and second their action.

What I claim as my invention is—

1. A spring or springs as a connection between the thrust-bar and the frame-lever of a heading harvesting-machine, for the purpose of destroying the violent oscillating motion caused by the weight of the grain-platform and its uneven propulsion by the thrust-bar.

2. The combination, with the lever D and the tongue A of a heading-harvester, of the vertical tension-springs F, forked rod E, cases G, and nuts *k*, substantially as and for the purposes described.

In testimony that I claim the foregoing improvement in heading-harvesters, I have hereunto set my hand this 1st day of August, A. D. 1876.

ANDREW J. HODGES.

Witnesses:
D. J. CALLIGAN,
GEO. PUTERBAUGH.