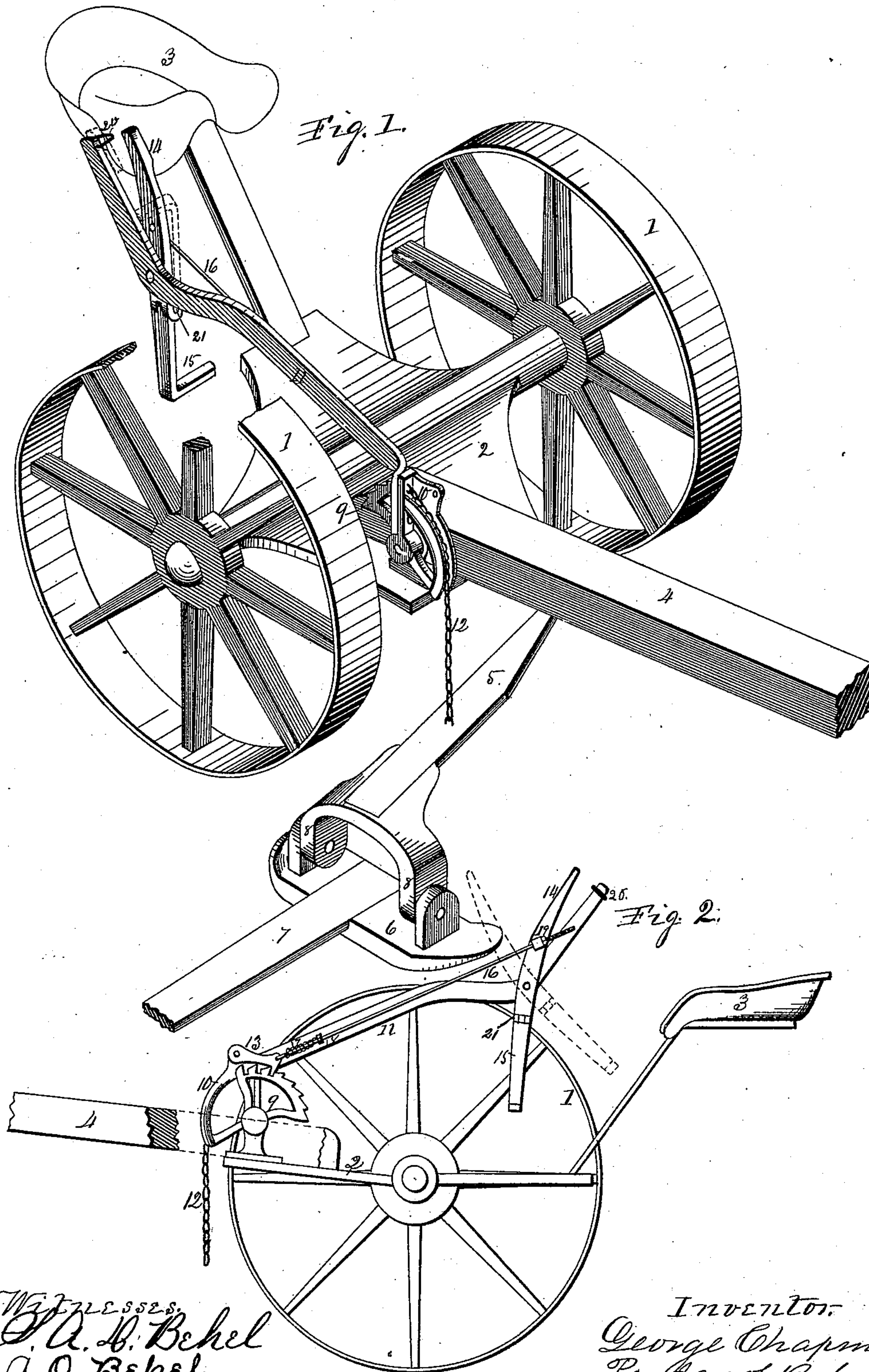


(No Model.)

G. CHAPMAN.
HARVESTER.

No. 374,521.

Patented Dec. 6, 1887.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE CHAPMAN, OF ROCKFORD, ILLINOIS, ASSIGNOR TO EMERSON,
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HARVESTER.

SPECIFICATION forming part of Letters Patent No. 374,521, dated December 6, 1887.

Application filed May 15, 1886. Serial No. 202,298. (No model.)

To all whom it may concern:

Be it known that I, GEORGE CHAPMAN, a citizen of the United States, residing in the city of Rockford, in the county of Winnebago and State of Illinois, have invented new and useful Improvements in Harvesters, of which the following is a specification.

This invention relates to the raising and lowering of the cutting mechanism in harvesting-machines. Its object is to enable the driver to operate the raising and lowering mechanism with either his foot or hand, or both.

Figure 1 is an isometrical representation of my improvements in connection with such portions of a mowing-machine necessary to show its application. Fig. 2 is a side elevation with one wheel omitted and portions broken away to show the parts more clearly.

The several parts consist of the carrying-wheels 1, main frame 2, mounted on the carrying-wheels, seat 3, supported on the main frame, and tongue 4, fixed to the frame, a coupling-bar, 5, having a free hinged connection at one end with the main frame, and a shoe, 6, with finger-bar 7, fixed thereto. Hinge-jointed to the yoke arms 8 of the coupling-bar are parts common to mowing-machines, and, in connection with a cutting apparatus and other parts necessary to a complete machine, may be any of the known forms capable of use in connection with my improvements, to be hereinafter more fully described. A ratchet-toothed segment, 9, of bracket construction, is fixed to the main frame or tongue of the machine. A segment-sheave, 10, with lever-arm 11 attached, is pivoted to the toothed segment-bracket concentric with the segment, to oscillate on its pivotal support. A lifting-chain, 12, connects the segment-sheave with the coupling-arm of the cutting apparatus, by which the cutting apparatus is raised and lowered by the up-and-down movement of the lever. A spring-actuated pawl, 13, is pivotally connected with the segment-sheave of the lever, in position to engage the teeth of the ratchet, to regulate the running height of the cutter or hold the cutting apparatus elevated. A suitable number of the ratchet-teeth at the

forward end of the segment are partially or wholly produced on radial lines to receive the square detent end of the pawl, to hold the lever in its adjusted position to permit the cutting apparatus to float in the usual manner to adapt itself to the inequalities of the ground independent of the lifting mechanism. A combined foot-pedal and thumb-lever, consisting of the upper or thumb portion, 14, and a foot-pedal portion, 15, hinge-jointed at their central connection, as at 21, in a manner to fold on each other, with the pedal-arm of the foot portion overlapping the free end of the upper portion, as shown in dotted lines in Fig. 1, is pivoted near its hinge-connection to the free end portion of the lifting-lever, and is capable of an oscillatory movement on its pivotal connection with the lever in the lengthwise direction of the machine, as shown in dotted lines in Fig. 2. A rod, 16, connects the pawl 13 with the upper portion, 14, of the combined foot-pedal and thumb-lever above its pivotal connection with the lifting-lever in such a manner that the forward movement of the lower foot-pedal portion, 15, or the rearward movement of the upper or thumb portion, 14, will disengage the pawl from the teeth of the segment-ratchet to permit a free movement of the lifting-lever. A spring, 17, surrounds the rod between its connection with the pawl and an eye, 18, employed as a support to the rod, fixed in the lifting-lever, and its spring action tends to hold the pawl engaged with the ratchet-segment. The upper or rear end of the rod 16 in its connection with the upper portion of the foot-pedal or thumb-lever is passed through an eye, 19, having a swivel-connection with the thumb-lever, to permit a free sliding movement of the swivel-eye support endwise on the rod in the rearward swinging movement of the foot-pedal or the forward swinging movement of its thumb-lever arm.

To hold the spring-actuated pawl disengaged from the segment-ratchet, a detent-link, 20, is pivoted in the free end of the lifting-lever to embrace the free end of the thumb-lever when pressed rearward, as shown broken in Fig. 1, and permits the free vertical movement of the lever, and consequently a free floating move-

ment of the cutting apparatus, to conform to the undulatory surface or inequalities of the ground, and to enable the driver, by means of his foot, to lift the cutting apparatus to
 5 override obstructions without interfering with his management of the team.

In use the driver mounted in his seat is in position to place his foot upon the pedal-arm of the foot-lever, and a forward movement of
 10 his foot will carry the pedal-arm forward and disengage the pawl from the segment-ratchet, when a downward pressure of his foot on the pedal-arm will lift the cutting apparatus, or an upward movement of the foot will permit
 15 the cutting apparatus to descend, and a rearward movement of the foot-pedal will permit the pawl to engage the teeth of the segment to hold the cutting apparatus in its adjusted position.

20 The several operations last above described to adjust and manage the cutting apparatus may be performed by hand by means of the free handle end of the lifting-lever and its thumb-lever attachment. The depression of
 25 the free end of the lifting-lever to raise and support the cutting apparatus in position for transportation will place the pedal-arm in position to engage obstructions in the travel of the machine; but its pivotal connection with
 30 the lifting-lever and its sliding connection with the rod connecting it with the pawl-detent will permit it to swing rearward to override obstructions without injuring the parts.

In adjusting the machine for transportation
 35 I prefer to turn the foot-pedal portion of the combined foot and hand lever upon its hinged connection, as shown in the dotted-line position in Fig. 1, which places it out of danger.

I do not wish to confine myself to the com-
 40 bined foot and hand lever mechanism, as it is evident that the hand attachment may be dispensed with and the apparatus still be an

efficient raising, lowering, and holding apparatus to be operated by the foot of the driver and capable of all the functions of the com- 45
 bined apparatus.

I claim as my invention—

1. The combination, with the main frame and lifting-lever, of mechanism connecting the lifting-lever with the cutting apparatus, a com- 50
 bined hand and foot lever, hinge-jointed as described, and pivotally secured upon the lifting-lever, a pawl pivoted to said lifting-lever, and a rod connecting said combined hand and foot lever with said pawl, substantially as set 55
 forth.

2. The combination, with the main frame and cutting mechanism hung thereto, of the lifting-lever and the supplemental foot-lever, a segment-rack on the frame, a pawl pivoted to the 60
 lifting-lever to engage the rack, and a rod connecting the pawl with the foot lever, and having a free connection, substantially such as a swiveled guide, with the foot-lever, to permit a rearward swinging movement of the foot- 65
 lever, substantially as set forth.

3. The combination, with a combined hand and foot lever, of a segment-rack provided with radial and tangentially extending teeth, as described, and a pawl pivoted on the lift- 70
 ing-lever to engage said teeth, as set forth.

4. The combination, with a hand-lever, segmental sheave, cutting apparatus connected to the latter, the toothed segment, and the pawl on the lever to engage the teeth of the segment, 75
 of a combined thumb and foot lever pivoted to swing freely on the hand-lever and mechanism to connect the pawl to the combined thumb and foot lever, substantially as set forth.

GEORGE CHAPMAN.

Witnesses:

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