(No Model.)

W. F. COCHRANE.

LIFTING DEVICE FOR HARVESTERS.

No. 306,321. Patented Oct. 7, 1884.

Fig. 1

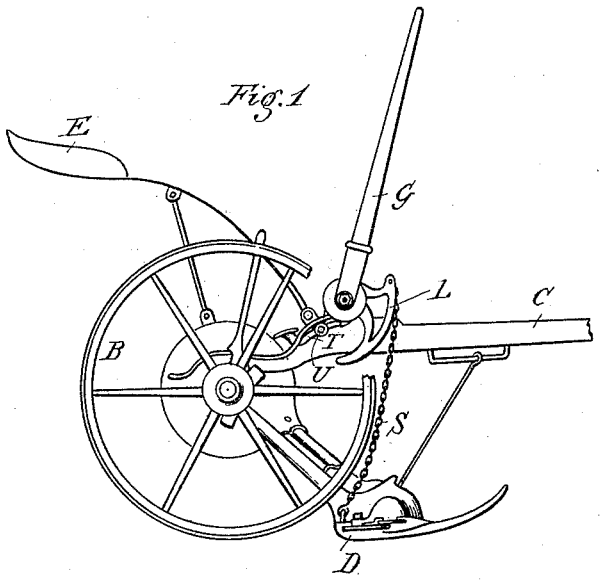


Fig. 2

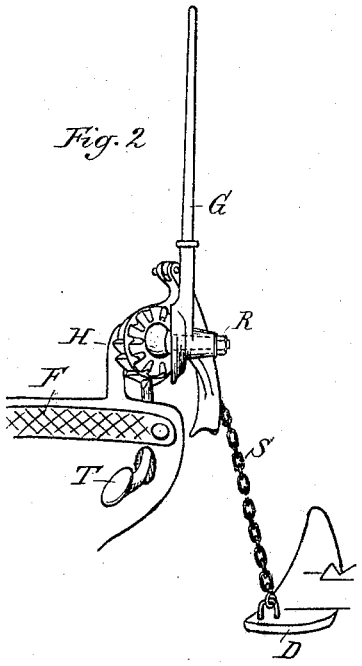


Fig. 3

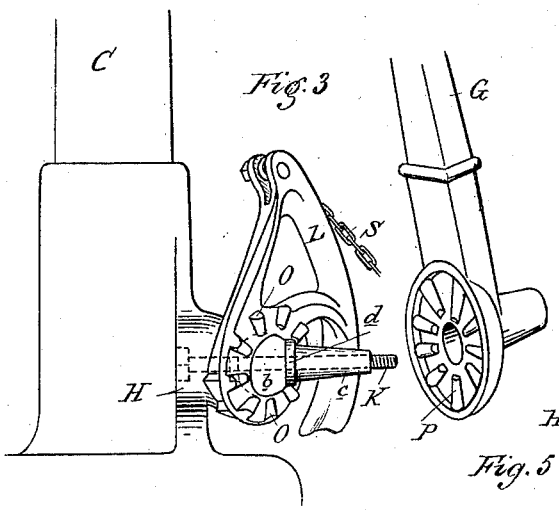


Fig. 4

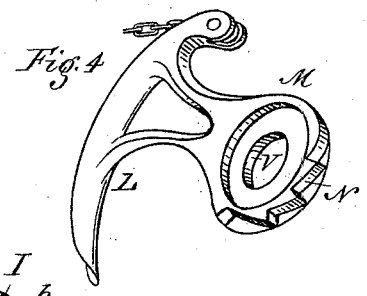
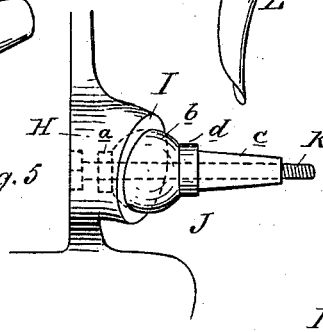


Fig. 5



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UNITED STATES PATENT OFFICE.

WILLIAM F. COCHRANE, OF JACKSON, ASSIGNOR TO LEIGH LIGGETT, OF DETROIT, MICHIGAN.

LIFTING DEVICE FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 306,321, dated October 7, 1884.

Application filed December 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. COCHRANE, of Jackson, in the county of Jackson and State of Michigan, have invented a new and useful Improvement in Lifting Devices for Harvesters, of which the following is a specification.

Figure 1 is a side elevation of a mower with my invention attached thereto. Fig. 2 is a rear perspective of my invention. Fig. 3 is a plan view with the lever detached. Fig. 4 is a perspective view of the sector-plate, and Fig. 5 is a plan view of the standard and stub-shaft.

My invention consists in a lifting device intended for use principally on mowers and other places where the object to be lifted is at an angle with the motion of the lever; and it consists in a pivoted lever having teeth on its lower end, a sector-plate having a circular row of teeth around its pivot, and pivoted on one side of a ball, whose diameter is larger than the hole in the hub of the sector-plate which plays thereon.

A represents the frame of a mower; B, the wheels; C, the tongue, and E the driver's seat. F represents the foot-rest.

D represents the float-bar or shoe of the cutter-bar, and S represents a lifting-chain fastened thereto, the other end of said chain being attached to the sector-plate.

H represents a standard on the foot-rest F to support the lifting device.

J represents the stub-shaft secured to standard H, which supports the movable portion of my invention, and consists of a square-headed bolt, K, (shown in dotted lines, Fig. 5,) having a screw-thread on its outer end carrying a sleeve, the outer portion, *c*, of which is tapering, the next portion being a shoulder, *d*, the next a ball, *b*, and terminating in a shoulder, *a*, which fits into a recess in standard H. The outer end of standard H has a socket, I, therein, which partly receives ball *b*, and the outer end of the standard is beveled, so that it crosses the line of stub-shaft J diagonally, as shown in Fig. 5.

L represents a grooved sector-plate, attached by arms to a central hub, M. The hub has a recess therein to fit over the end of standard H, and has a hole, V, through its center, the diameter of said hole being somewhat less than the diameter of ball *b*. On the outer side of the hub M is a circular row of teeth, O, and on its periphery are ratchet-teeth N.

G represents a lever, the lower end of which is made in a tapering sleeve to fit the part *c* of the stub-shaft, the inner end of said sleeve being enlarged to carry a circular row of teeth, P, corresponding to teeth O.

R represents a nut by which the lever is secured on the stub-shaft.

T represents a gravity-pawl pivoted on fulcrum U, and adapted to engage with the ratchet-teeth N.

The lifting-chain S is attached to one end of the sector-plate L, as shown in Fig. 3.

To put the lifting device together, the bolt K is first passed through standard H, and hub M slipped over said bolt. The sleeve *a b c d* is then slipped on the bolt K until the shoulder *a* is fairly seated in the recess in the standard made for it, when the sleeve of the lever G is slipped on the sleeve *c* until stopped by the shoulder *d*, and the whole secured in place by screwing on the nut R.

In lifting devices ordinarily used on mowers, the lever and sector-plate or short arm move in the same vertical plane, and as the shoe D is not in this plane the lifting-chain runs in pulleys to give it the desired direction, which much increases the power necessary to raise the cutter-bar. In my invention the lever G moves in a fixed plane; but as the hub of sector-plate L is pivoted on the ball *b* said sector-plate does not necessarily so move, and is free to follow to a great degree the plane of motion of chain S, thus avoiding the necessity of guiding said chain over pulleys. At the same time some of teeth O are always interlocked with some of teeth P, so that the device is always ready to operate. Pawl T holds sector-plate L in a manner too well understood to need description.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a lifting device, the combination of a pivoted lever having a circular row of teeth thereon, a sector-plate whose hub is pivoted on a ball, and having on its hub a circular

row of teeth adapted to interlock with the teeth on the lever, and a lifting-chain attached to the sector-plate, substantially as and for the purposes set forth.

2. The combination, with a standard, H, of the shaft K, having thereon the ball *b*, sector-plate L, having hub M and teeth O, pivoted lever G, having teeth P thereon, and lifting-chain S, substantially as herein shown and described.

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Witnesses:
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