

(No Model.)

J. F. STEWARD.
CHAIN TIGHTENER FOR HARVESTERS.

No. 459,114.

Patented Sept. 8, 1891.

Fig. 1.

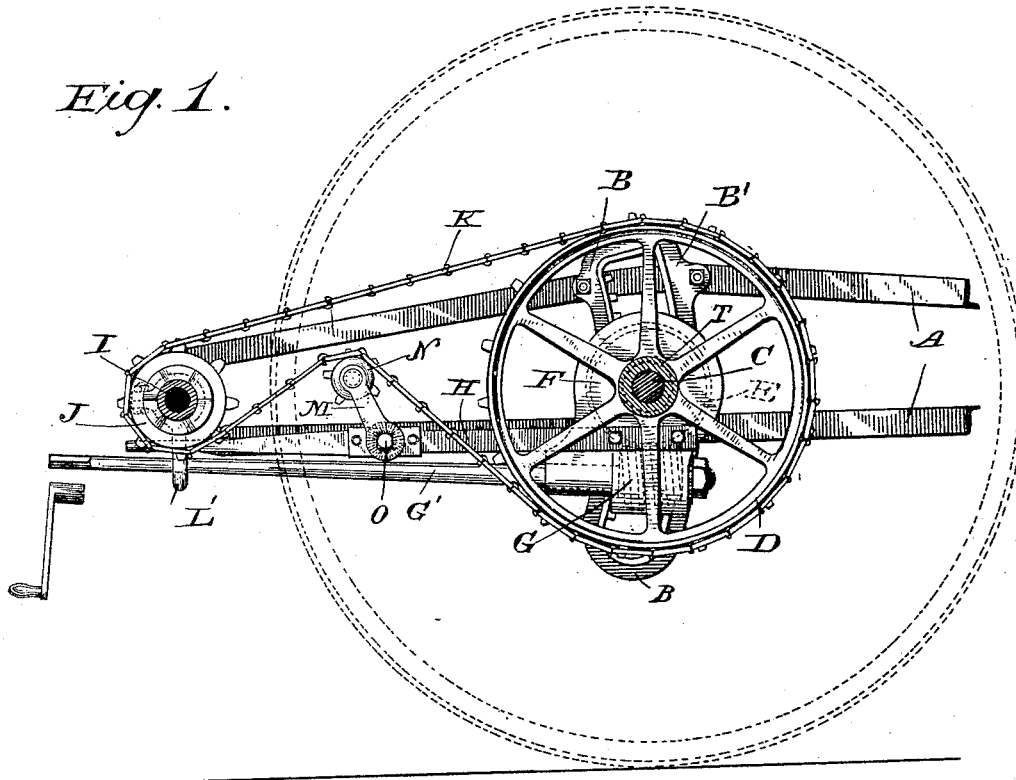


Fig. 2.

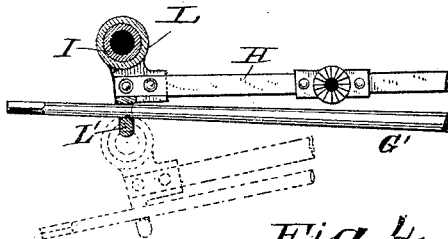


Fig. 4.

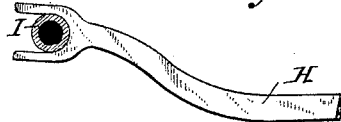


Fig. 3.

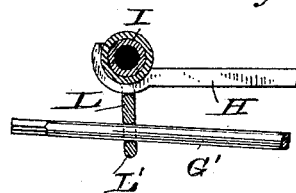
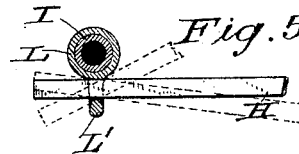


Fig. 5.



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JOHN F. STEWARD, OF CHICAGO, ILLINOIS.

CHAIN-TIGHTENER FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 459,114, dated September 8, 1891.

Application filed December 22, 1888. Serial No. 294,359. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. STEWARD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Chain-Tighteners for Harvesters, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings.

My invention relates to that class of machines in which motion is communicated by a chain from a wheel on the main axle to the harvester-gearing; and the aim of the invention is to provide improvements in a chain-tightening mechanism which will permit the main frame to be raised or lowered on the main wheel, as usual, without changing the tension of the chain.

In the accompanying drawings, Figure 1 is a side elevation showing my device applied to a harvester. Fig. 2 is an elevation, partly in section, of certain details of the construction shown in the first figure. Figs. 3, 4, and 5 are views of modifications.

Referring to the drawings, A is one of the two trusses or frame-pieces between which the main ground-wheel is mounted; B, a slotted toothed segment-plate bolted to the truss to receive and guide one end of the axle; C, the axle, and D the main sprocket or chain wheel mounted on the axle and communicating motion by chain K to the sprocket-wheel J, mounted on one end of a horizontal shaft I, mounted on the frame to drive the harvester-gearing.

The axle carries a pinion T, (shown in dotted lines in Fig. 1,) in engagement with the teeth of the segment, so that when rotated it will raise or lower the frame in relation to the main wheel.

The above parts are of ordinary construction and form no part of my invention.

In applying my improvement I form on or secure to the side of the frame-adjusting pinion a worm-wheel E, and inclose the same by a casing F, fitted to turn on the axle.

In the lower part of the casing I mount a worm G, engaging the worm-wheel, and from this worm I extend an operating-shaft G' rearward through a supporting-guide L', sustained from or revoluble around the shaft I of the driven wheel J.

To the casing of the worm-wheel I bolt one end of a bar H, the other end of which encircles shaft I, and on this bar I mount an adjustable arm M, carrying a tightener-pulley N, which acts against the chain to maintain the required tension. The arm M is preferably made, as shown, with a serrated face and secured by bolt O against the corresponding serrated plate on the bar H; but any equivalent mode of attachment may be used. The bar H may be bolted to a casting which encircles the shaft, as in Fig. 2, or forked to embrace the shaft, as in Fig. 4, or arranged to slide through a collar on the shaft, as in Figs. 5 and 1.

The operation is as follows: The shaft G' and the worm and casing held thereby prevent the rotation of pinion T, (shown by dotted lines in Fig. 1,) which through its engagement with segment B sustains the frame. When the shaft G' is turned, its worm rotates the worm-wheel and pinion, and thereby raises or lowers the frame. As the frame moves vertically, the sprocket-wheel B, the frame-adjusting devices, the bar H, and the tightener-pulley thereon all swing around the driven shaft I as a center, and consequently their operative parts all retain their relations to each other and the tension of the chain remains unchanged.

Having thus described my invention, what I claim is—

In a harvester, the main wheel, its axle, the axle-pinion and worm-wheel, and the main frame with its rack to engage the pinion, as usual, in combination with the driving-pulley on the axle, the driven pulley J on the frame, the driving-chain, the casing encircling the axle, the worm mounted in and sustained by said casing, the sleeve encircling the axis of the driven pulley, the worm-operating shaft extended through said sleeve, and the radius-bar rigidly connecting the casing and the sleeve, substantially as shown, whereby the several parts are retained in operative relations as the frame is raised or lowered.

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Witnesses:

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