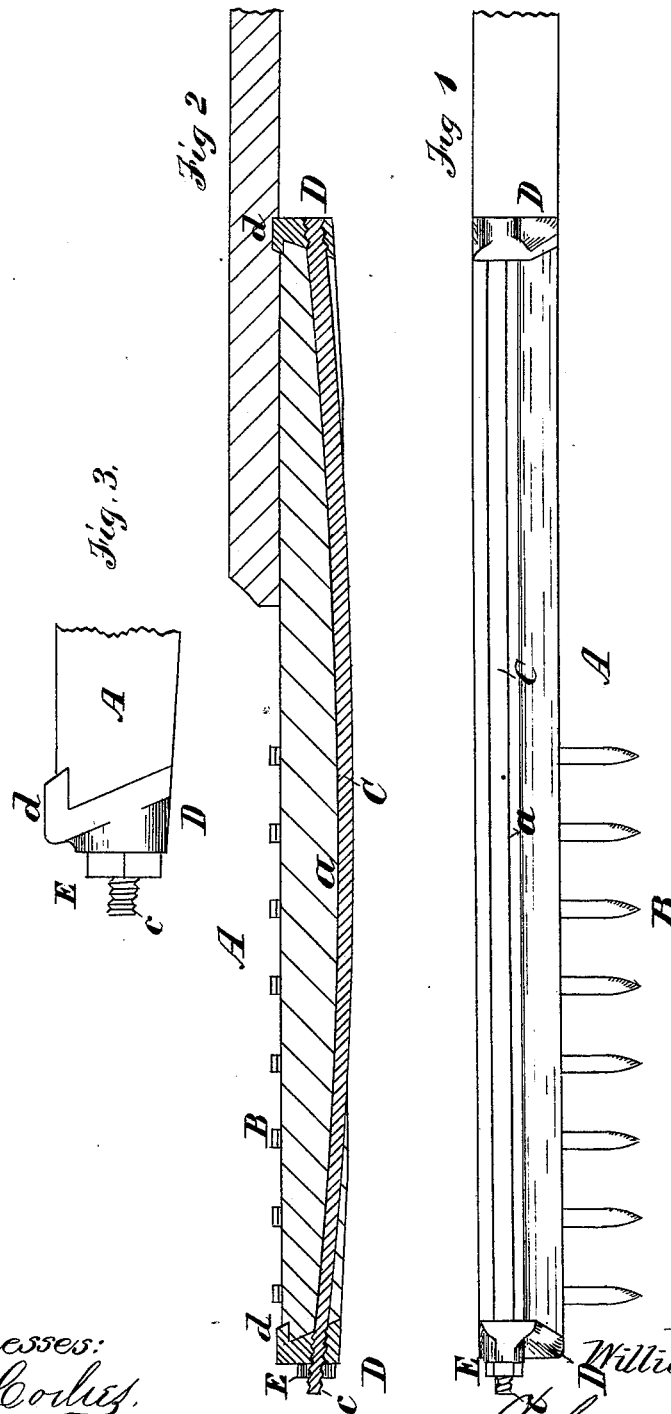


W. H. DAVIS.  
Harvester Finger-Bar.

No. 213,497.

Patented Mar. 25, 1879.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN HARVESTER FINGER-BARS.

Specification forming part of Letters Patent No. **213,497**, dated March 25, 1879; application filed January 18, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM H. DAVIS, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Improvement in Finger-Beams for Harvesters, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan view of the bottom of a finger-beam containing my improvement, the finger-beam being inverted; Fig. 2, a rear elevation of the same in working position; and Fig. 3, a detail view on an enlarged scale, showing the outer end of the finger-bar and the metallic end piece or cap.

The object of my invention is to provide a support or stay for the finger-beam which will prevent all sagging.

The invention consists in a finger-beam having a groove along its under side, convex lengthwise, in combination with a stay-rod arranged within the groove, and fastened to supports at each end of the finger-beam, as hereinafter will be more fully set forth.

In the drawings, A represents the finger-beam of a harvesting-machine of ordinary construction except in the particulars hereinafter named, and B the fingers attached thereto. In the under side of this finger-beam a channel or groove, *a*, is cut, running along the entire length of the beam, convex in its longitudinal section, as shown in Fig. 2 of the drawings.

A bar of iron, C, or other suitable metal, is prepared, a little longer than the finger-beam, and screw-thread *c* is cut on each end thereof. This bar may be either round, rectangular, or any other shape, the groove in the finger-beam being adapted in size and form to receive it bodily. It will be found necessary, however, to make the ends of the rod or bar round, whatever may be its cross-section at other places, for the purpose of adapting them to be threaded.

Metallic caps or end pieces D are constructed of such size and shape as to exactly fit the ends of the finger-beam, which, preferably, are beveled slightly from top to bottom, as shown in Figs. 2 and 3 of the drawings, the bevel corresponding to the pitch of the rod. These

caps are provided with flanges *d* at their upper ends, which are adapted to extend over upon the upper surface of the finger-beam, as shown in Figs. 2 and 3 of the drawings.

One of the caps, preferably that at the inner end of the finger-beam, is provided with a screw-threaded hole, and in the other a smooth aperture is made, large enough to receive the end of the truss-rod.

In applying the device one end of the rod is screwed into the threaded cap, and the other is passed through the hole in the other cap, and a nut, E, turned upon the projecting end, as shown in the drawings. By means of this nut the rod can be strained up to any degree of tension desired, and from its position and arrangement in relation to the finger-beam it is evident that it will operate as a truss to sustain the beam and prevent sagging. The projections or flanges *d* on the end pieces, D, take a part of the strain as the nut is turned up against the end piece.

The stay-rod may be secured by other devices suitable for the purpose described; but I have found those herein specified and shown very simple and efficient in practice.

In all harvesting-machines great difficulty is experienced in the sagging of the finger-beam, more especially those in which the binding of the grain is done upon the machine and those having self-rakes. In the former the cut is very wide and the finger-beam correspondingly long, and in the latter additional weight is imposed upon the finger-beam by reason of the raking apparatus supported in whole or in part thereby. Various devices have been resorted to to cure this defect; but so far as I am informed none have proved entirely satisfactory. Some have been utterly worthless as supports, and others, although giving the necessary support to the beam, have been objectionable because they have prevented a close cut by projecting below the finger-beam.

In my improvement I embed the supporting-rod in the finger-beam, so that it is out of the way, and at the same time am not obliged to increase the size of the beam, but, on the contrary, am enabled to make it considerably smaller than usual. At the same time I secure a perfect truss effect, which I have found

prevents all sagging of the finger-beam, and will even restore a beam when bent to its original position, unless the curvature is of too long standing; for it will be evident, on account of the curvature of the groove in the finger-beam, that when the rod is strained by power applied to the nut the resistance will be greatest at the greatest convexity of the groove—that is, near the center of the finger-beam, just where it is most needed.

The device is simple, cheap, and efficient; enables the thickness of the finger-beam to be reduced, and at the same time is entirely out of the way of obstructions, so that the finger-beam may be dropped for the purpose of obtaining a low cut.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The finger-beam A, provided with a groove, *a*, on its under side, convex in longitudinal section, in combination with the stay-rod C, arranged within the groove and secured to supports at each end of the finger-beam, whereby it may be strained lengthwise, substantially as described.

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