

(No Model.)

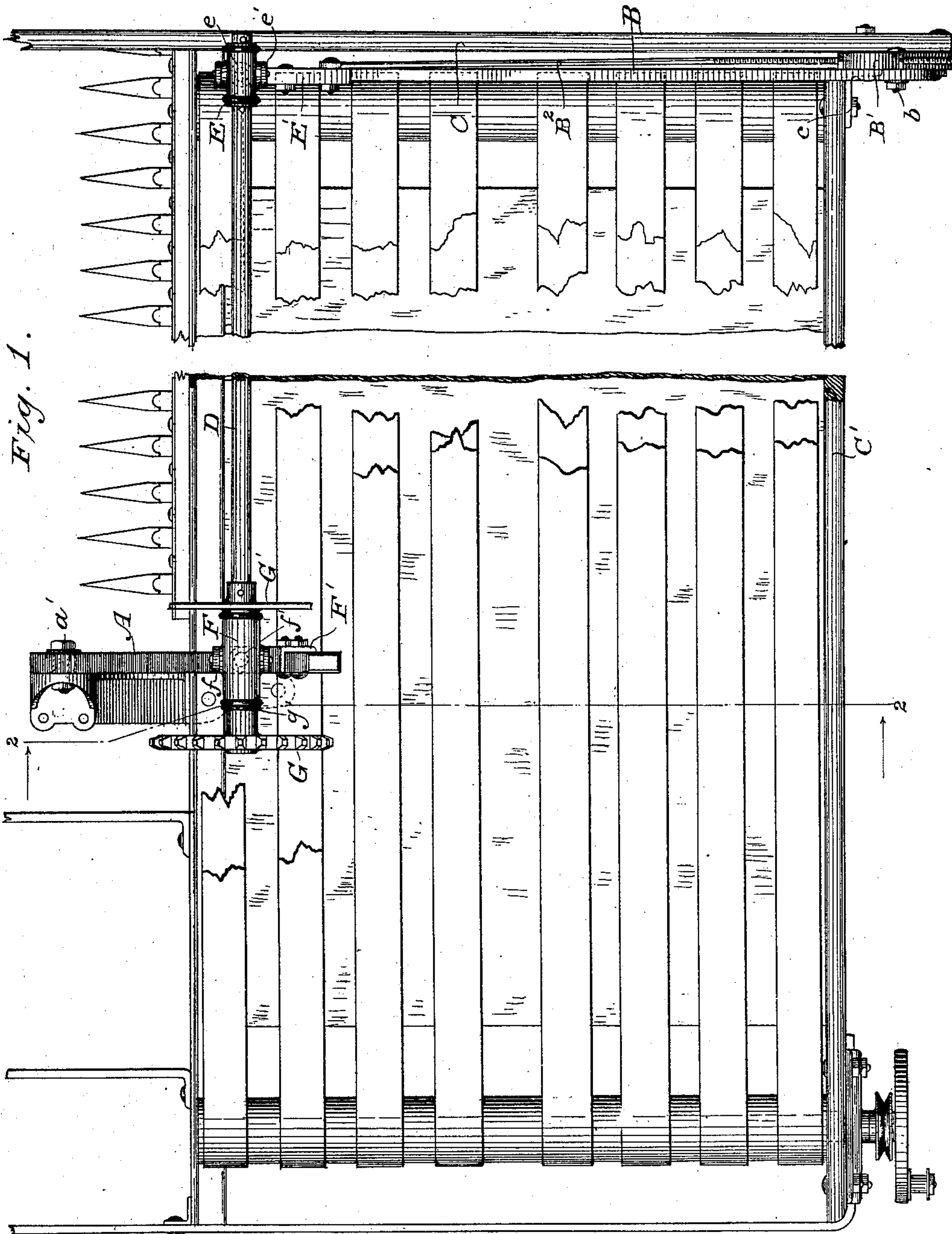
2 Sheets—Sheet 1.

J. S. DAVIS.

# REEL SUPPORT FOR HARVESTERS.

No. 389,837.

Patented Sept. 18, 1888.



Witnesses

Inventor

*John S. Davis* •

By his Attorney

Wm A. Sprinkle

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

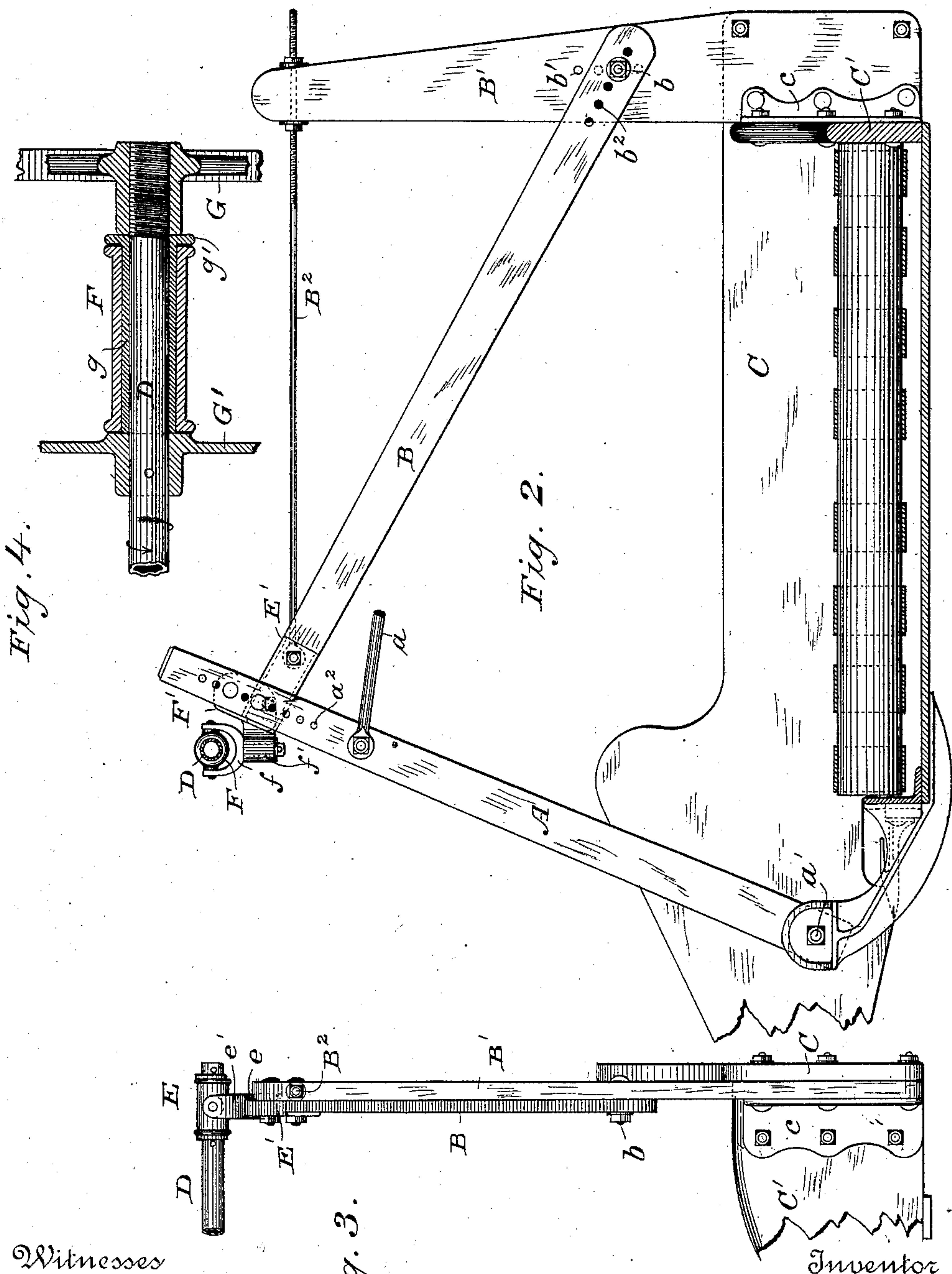
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Witnesses

*A. E. Summer*  
*Eda D. Summer*

*Fig. 3.*

Inventor

*John S. Davis*

By his Attorney

*Wm. A. Shinkle*



# UNITED STATES PATENT OFFICE.

JOHN S. DAVIS, OF CLEVELAND, ASSIGNOR TO THE DAVIS PLATFORM  
BINDER COMPANY, OF ROCKPORT, OHIO.

## REEL-SUPPORT FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 389,837, dated September 18, 1888.

Application filed October 19, 1887. Serial No. 252,795. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN S. DAVIS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Reel-Supports for Harvesters, of which the following is a description.

My invention relates to harvester-reels; and it consists of certain improvements in the hangers and supports therefor to provide for adjusting the position of the reel relatively to the cutting apparatus, and to prevent cramping and binding of the reel-shaft in its journal or bearing boxes, as will hereinafter be fully set forth.

The accompanying drawings show my invention as applied to a harvester-platform of the form shown in several Letters Patent granted to me since 1881, (see, particularly, Nos. 252,081, January 10, 1882; 260,668, July 4, 1882; 274,441, March 20, 1883; 275,330, April 3, 1883, and 285,580, September 25, 1883,) in which the grain is taken from the platform by an endless carrier consisting of an apron or series of belts. This is the form I prefer; but with slight modifications, not affecting its general principles or departing from the spirit of my invention, it is applicable to other well-known forms of harvester-platforms.

In the drawings, Figure 1 is a plan view of a harvester-platform with my invention applied thereto. Fig. 2 is a vertical transverse section therethrough on the line 2 2 of Fig. 1. Fig. 3 is a rear elevation of the outer reel-supporting post, and Fig. 4 is a longitudinal section through the inner journal-box and sprocket driving-wheel on an enlarged scale.

The inner end of the reel-shaft is supported by a post, A, pivotally connected at its foot to the platform or any rigid portion thereof, and suitably braced near its top by one or more rods, *a*, attached to any fixed portion of the platform in such manner that the head of the reel-post A may be adjusted back and forth by vibrating on its pivot *a'*, thus forming an adjustable support for the inner end of the reel-shaft. One method of attaching these brace-rods to a binder-frame mounted on the platform is shown in my application for a patent on grain-binding harvesters filed July 5, 1887, Serial No. 243,315.

The outer end of the reel-shaft is supported

at the end of an overhanging thrust-bar, B, attached at its heel to an upright post, B', rigidly secured to the rear outer corner of the platform-frame.

The end board, C, of the platform extends past the rear sill, C', as shown, and the post B' is rigidly bolted to the projecting end, a corner bracket, *c*, bolted to the rear sill and to the post and end board, firmly connecting these parts and greatly strengthening the corner.

The thrust-bar B, which overhangs the platform from rear to front, is trussed by a tie-rod, B<sup>2</sup>, extending from near its upper end to and through the top of the post B', being screw-threaded at its end and provided with washers and adjusting-nuts, which embrace the front and rear edges of the post. The three parts B B' B<sup>2</sup> constitute an overhanging adjustable support for the outer end of the reel-shaft. The heel end of the bar is attached to the post by means of a bolt, *b*, which passes through any of the holes in the series of holes *b' b'* in the post and bar, respectively, which, together with the screw-threaded end of the tie-rod, enables me to effect an adjustment of the outer reel-shaft bearing, extending through a wide range. I have found in practice that a very light reel-shaft, D, may be used; but it is liable to buckle and spring when subjected to side strains, and when mounted in fixed bearings to get out of axial alignment therewith and cramp in the bearings. This is also liable to occur through the uneven adjustment of the ends of the shaft. Each end being adjusted by means entirely independent of the other, it is almost impossible to preserve a perfect alignment of the bearings. To obviate this objection, I pivot the bearing-boxes E F in swiveling yoke-pieces, so that like universal joints they yield to pressure in any direction and accommodate themselves to any axial line the shaft may seek. The box E is supported by a bracket, E', securely bolted to the top of the thrust-bar B, and formed with a socket, *e*, for the shank of the swiveling yoke-piece *e'*, in the forks of which the box is pivoted. Washers and cross-pins through the shaft at each end of the box prevent endwise movement of the shaft therein. The box F is similarly hung in the forks of a swiveling yoke-piece, *f*, mounted in the socket *f'* of a



bracket, F', bolted to the reel post A, a series of bolt-holes,  $a^2$ , in which permits the vertical adjustment of the bracket on the post.

For the purpose of securing lightness with the requisite strength, I prefer to use metal pipe for my reel-shaft, and I have found difficulty in fastening the sprocket driving-wheel G upon it by keys or pins so as to make a secure but at the same time a readily detachable connection. This I attain, however, in the following manner: The end of the shaft and the hub of the wheel are screw-threaded in such direction that the turning of the wheel by the driving chain tends to screw it farther on the shaft.

The spider G', to which the reel-arms are attached, is rigidly pinned to the shaft at the inner end of the bearing-box F, and a sleeve, g, which is turned to fit in the box, embraces the shaft and fills the space between the hub of the wheel and the hub of the spider, acting as a spacing-thimble to take up the side-thrust of the wheel-hub, and also as a bushing on the shaft, with which it turns in bearing-box F. The hub of the spider G' forms a fixed shoulder or stop, which resists the longitudinal movement on the shaft of the spacing-thimble g when pressed upon by the screwed hub of wheel G. A bead or flange, g', on the outer end of the thimble and the hub of the spider at its inner end prevent endwise movement of the shaft in the box.

As both ends of the shaft are locked against endwise movement in their boxes, it acts as a stay or tie rod from the post A, which is rigidly braced, to the overhanging end of the outer support, preventing the latter from side-wise motion.

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

1. An overhanging support for the outer end of a reel-shaft, consisting of the post B', rigidly attached near the rear side of the platform, the thrust-bar B, pivotally secured at its heel near the lower end of the post, and the tie-rod B<sup>2</sup>, extending from the top of the post to the top of the bar, and means whereby its length may be adjusted to change the position of the reel-shaft, substantially as hereinbefore set forth.

2. An overhanging adjustable support for the outer end of a reel-shaft, consisting of the post B', rigidly secured to the platform near its rear, the brace-bar B, adjustably attached at its heel near the lower end of the post by a bolt, b, and the series of holes b' b<sup>2</sup>, the tie-rod B<sup>2</sup>, passing from the top of the bar through the top of the post, screw-threaded at its end, and provided with adjusting-nuts, substantially as hereinbefore set forth.

3. The combination of the reel-shaft, the independently-adjustable supports at its ends, with bearing-boxes mounted in universal joints on the supports, substantially as hereinbefore set forth.

4. The combination of the reel-shaft, the driving-wheel screwed thereon, as described, the hub of the spider G', rigidly secured upon the shaft, the bearing-box F between the driving-wheel and the spider-hub, and the spacing thimble or sleeve slightly longer than the bearing-box, within which it embraces the shaft, as and for the purpose hereinbefore set forth.

In testimony whereof I hereto affix my signature in presence of two witnesses.

JOHN S. DAVIS.

Witnesses:

HENRY W. WELKER,  
A. E. SUMNER.