

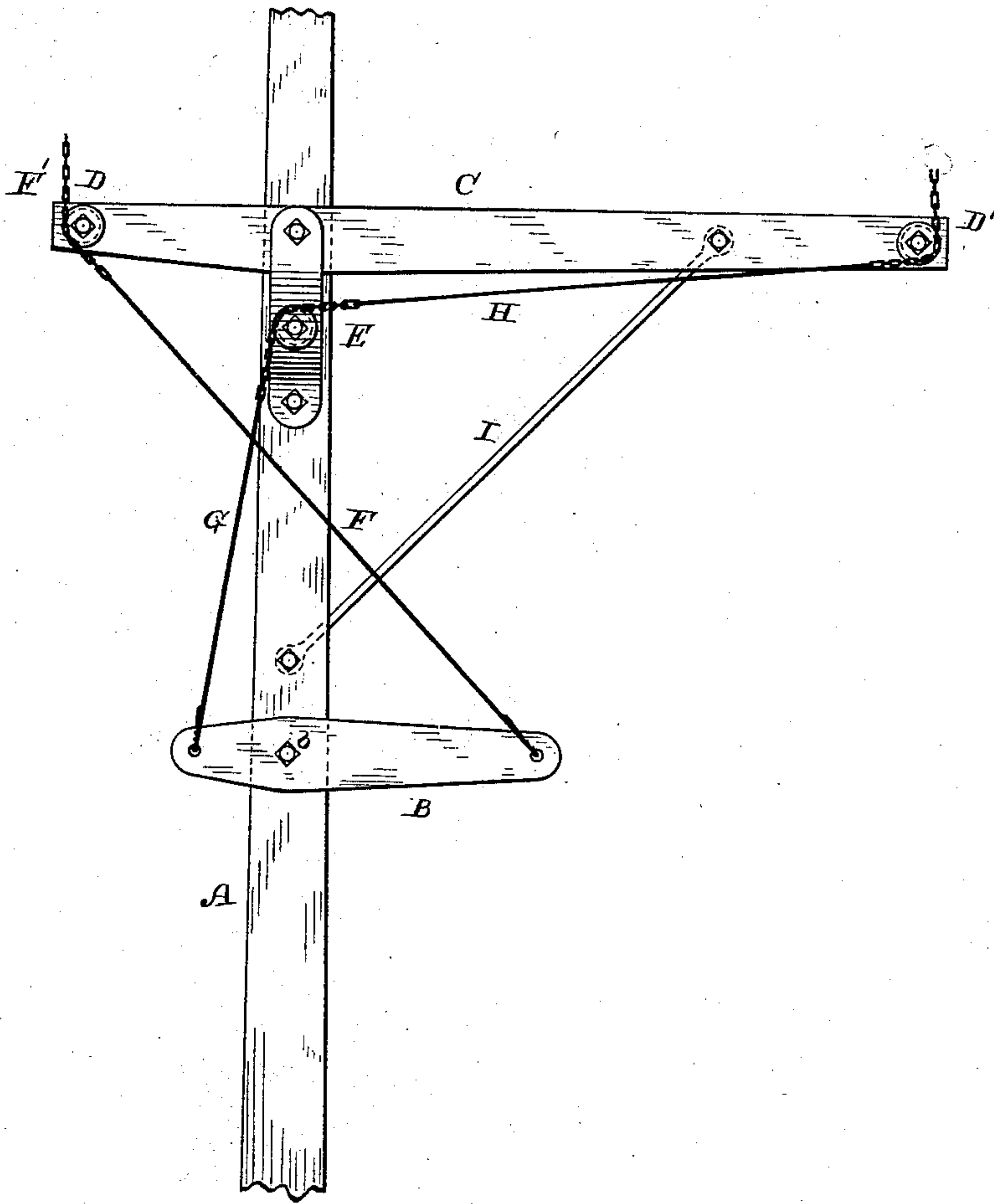
(No Model.)

E. F. STEVENS & J. PACKARD.

DRAFT EQUALIZER.

No. 376,559.

Patented Jan. 17, 1888.



WITNESSES

*E. A. Newman,*  
*C. M. Newman,*

INVENTORS

*Edwin F. Stevens,*  
*Joseph Packard,*  
*By their Attorneys*  
*Baldwin, Hopkins & Peyton*

# UNITED STATES PATENT OFFICE.

EDWIN F. STEVENS AND JOSEPH PACKARD, OF GREENE, IOWA.

## DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 376,559, dated January 17, 1888.

Application filed June 30, 1887. Serial No. 242,955. (No model.)

*To all whom it may concern:*

Be it known that we, EDWIN F. STEVENS and JOSEPH PACKARD, of Greene, Butler county, Iowa, have invented certain new and useful Improvements in Draft-Equalizers, of which the following is a specification.

The object of our invention is to provide a draft-equalizer for harvesting-machines, whereby four horses may be used abreast to draw the machine, one on the grain side of the tongue or pole and the remaining three on the opposite side. Various devices have been invented for this purpose; but we believe our invention to be novel to equalize the draft more effectually than has heretofore been done, and to embody a strong, simple, and reliable construction.

The accompanying drawing is a plan view of our invention.

The tongue or pole A is secured at its rear end to the machine in the usual way. Near the rear end of the tongue is secured the draft-equalizing lever B, and at a suitable distance in front of the lever B is secured a cross-piece or spreader, C, carrying on its outer ends pulleys D D'. A pulley, E, is mounted on the tongue in rear of the cross-bar C, between said bar and the lever B. The lever B is pivoted to the tongue at *b*, so that about one-third of its length is on one side of the tongue and the remaining two-thirds on the opposite side. The cross-bar C is mounted on the tongue so as to be divided in a similar manner, except that the long end of the bar is on the side of the tongue opposite to the short end of the equalizing-lever. In practice the short end of the lever B is about six inches in length and the long end about eighteen inches. The short end of the bar C is about fifteen inches in length and the long end about three feet seven inches.

The draft-connections are made from the lever B, over the pulleys D D' and E, to the whiffletrees, which are secured to the outer ends of the draft-connections. The draft-rod F is secured to the long end of the lever B, and its flexible end, *f*, extends over the pulley D. The draft-rod G is secured to the smaller end of the lever B, and a flexible end extends over the pulley E. The rod H is connected to the flexible end of the rod G, and extends to the pulley D', where it is provided with a flexible end to pass around said pulley.

A brace-rod, I, is placed diagonally between the tongue or pole A and the cross-bar

C, so as to hold the cross-bar securely in position and strengthen it against the draft.

We have described our invention as applied to a harvesting machine; but it may be applied to other machines or vehicles, and it may be so arranged as to accommodate less or more than four horses.

Instead of making the draft-connections of rods and chains, as shown, they may be entirely made of chains or other flexible connections; but we prefer the construction shown.

We claim—

1. The combination, substantially as set forth, of the tongue or pole, the equalizing-lever having long and short arms, the cross-bar or spreader, the pulley on the pole in rear of the spreader, and the crossed draft-connections from the longer end of the equalizing-lever over the shorter end of the spreader and from the shorter end of the equalizing-lever over the pulley on the pole and over the outer end of the spreader.

2. The combination, substantially as set forth, of the tongue or pole, the equalizing-lever having long and short arms, the cross-bar or spreader in front of the equalizing-lever, the pulleys on the outer ends of the spreader, the pulley on the pole in rear of the spreader, and the crossed draft-connections from the shorter end of the equalizing-lever over the pulley on the pole and over the pulley on the outer end of the spreader, and from the longer end of the equalizing-lever directly over the pulley on the shorter end of the spreader.

3. The combination, substantially as set forth, of the tongue or pole, the equalizing-lever, one-third of its length on one side of the pole and the remaining two-thirds on the opposite side, the spreader in front of the equalizing-lever, one-third of its length on that side of the pole opposite the long end of the equalizing-lever and two-thirds of its length on that side of the pole opposite the short end of the equalizing-lever, the diagonal brace-rod connecting the spreader to the pole, and the crossed draft-connections between the ends of the equalizing-lever and the spreader.

In testimony whereof we have hereunto subscribed our names.

EDWIN F. STEVENS.  
JOSEPH PACKARD.

Witnesses:

M. SHAW,  
F. LINGENFELDER.