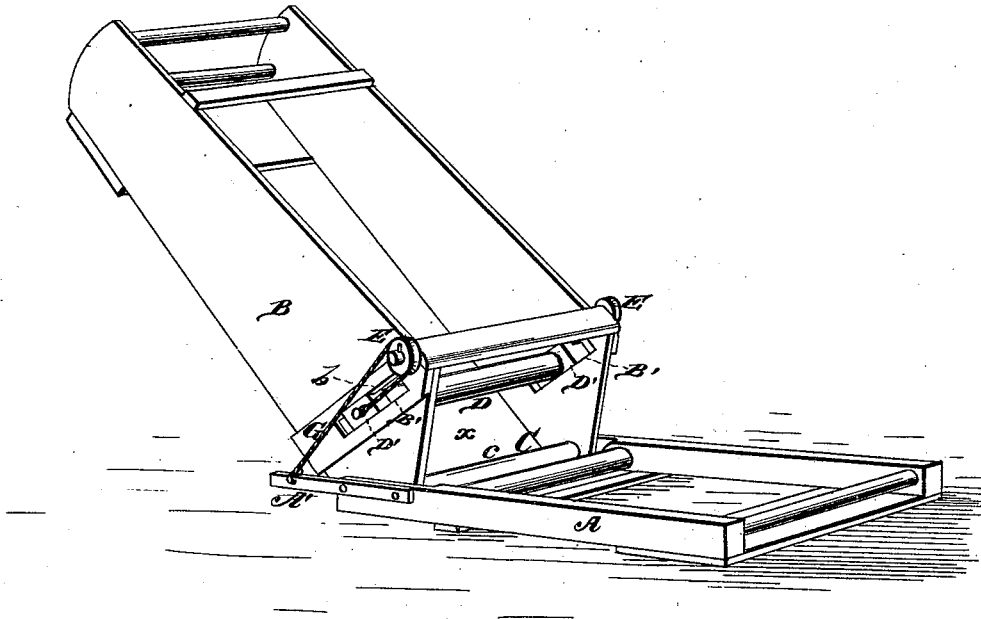


C. F. CRAVER & J. M. WISHART.  
Harvester-Elevators.

No. 212,296.

Patented Feb. 11, 1879.

*Fig. 1.*



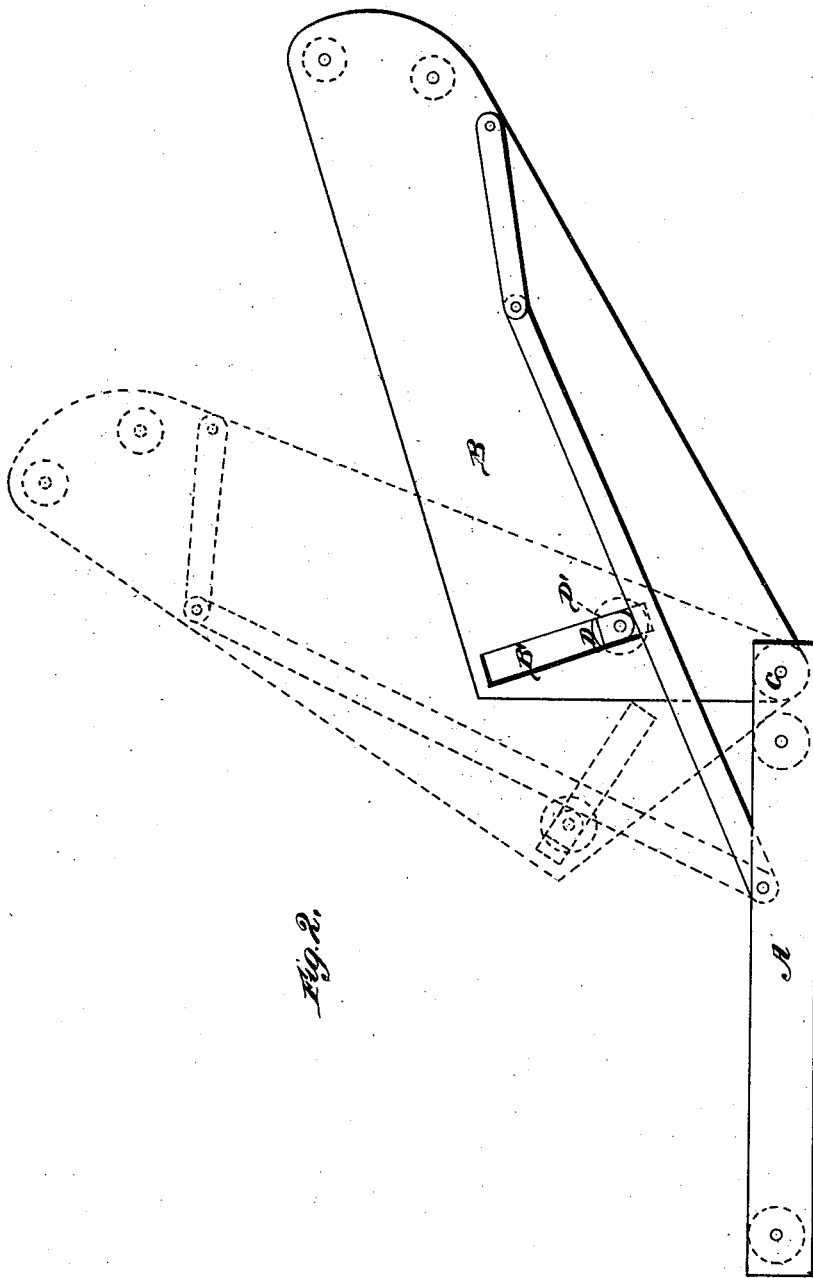
WITNESSES  
*John Everett*  
*A. Clay Smith*

INVENTORS  
*Charles F. Craver,*  
*James M. Wishart,*  
 By *Gibbons, Smith, Co.*  
 ATTORNEYS.

C. F. CRAVER & J. M. WISHART.  
Harvester-Elevators.

No. 212,296.

Patented Feb. 11, 1879.



*Fig. 2.*

*Witnesses.*  
*Robert Everett,*  
*H. Clay Smith.*

*Inventors.*  
*Charles F. Craver,*  
*James M. Wishart,*  
*64 Gilmore Street, Co.*  
*Attorneys.*

# UNITED STATES PATENT OFFICE.

CHARLES F. CRAVER AND JAMES M. WISHART, OF GRINNELL, IOWA.

## IMPROVEMENT IN HARVESTER-ELEVATORS.

Specification forming part of Letters Patent No. 212,296, dated February 11, 1879; application filed December 21, 1878.

### *To all whom it may concern:*

Be it known that we, CHARLES F. CRAVER and JAMES M. WISHART, of Grinnell, in the county of Poweshiek and State of Iowa, have invented a new and valuable Improvement in Harvester-Elevators; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a perspective of our harvester-elevator, and Fig. 2 is a side-elevation view of the same in a modified form.

Our invention relates to that class of harvesters which has adjustable elevators; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth.

In practice, we have discovered that the greater the angle of elevation of the adjustable elevator—*i. e.*, the nearer it approaches a vertical position—the more need accrues for a wide mouth between the elevating-aprons. This is due partially to the abruptness of the turn from the horizontal body to the elevator, and partially to the fact that any considerable elevation tends to contract the throat or opening.

To avoid this and other deleterious effects, we form the lower roll of the upper elevator-apron with adjustable bearings, such bearings being operated, by a peculiar construction and arrangement of parts, in such a manner that the elevation of the elevator will lift said bearings and open the throat, as will be hereinafter set forth.

Our invention is designed as an improvement upon that class of devices shown in patent to W. F. Randolph, No. 155,256, of September 22, 1874, in which the elevator is pivoted to the main frame of the machine upon the shaft of the lower roll of the lower elevator-apron; but the advantages may accrue in devices otherwise constructed.

Referring to the drawings, A represents the body of the machine, and B the elevator-frame, the latter being pivoted to the former upon the shaft *c* of the lower roll, C, as shown. The rolls and aprons are of any ordinary construction, except that the roll D is journaled in movable and adjustable bearings D', which operate in a slot, B', in the elevator-frame B, having guideways *b*. A rope or chain, G, or the like, secured to the bearing-blocks D', passes upward over a pulley, E, upon the elevator, and is secured to an arm, A', upon the body A, upon one or both sides.

The portion of the elevator designated as the "throat" is represented by the letter *x*, and lies between the rolls C and D.

It is evident that when the elevator-frame is sufficiently elevated the chain G serves to lift the journal-bearings D' of the adjustable roll D, and consequently widens the throat *x* of the elevator.

It is obvious that our improvement may be connected with any harvester-elevator wherever the same is pivoted.

It is also obvious that, instead of the chain and pulley, other mechanical means for adjustment may be employed without departing from the principle of our invention.

What we claim as new, and desire to secure by Letters Patent of the United States, is—

The frame A, having arms A', and frame B, having slots B' *b*, in combination with roll D, pulley E, and chain G, whereby the size of the throat may be enlarged by the rising of the elevator, as set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

CHAS. F. CRAVER.  
JAS. M. WISHART.

Witnesses:

ROBERT M. HAINES,  
FRANK V. MILLS.