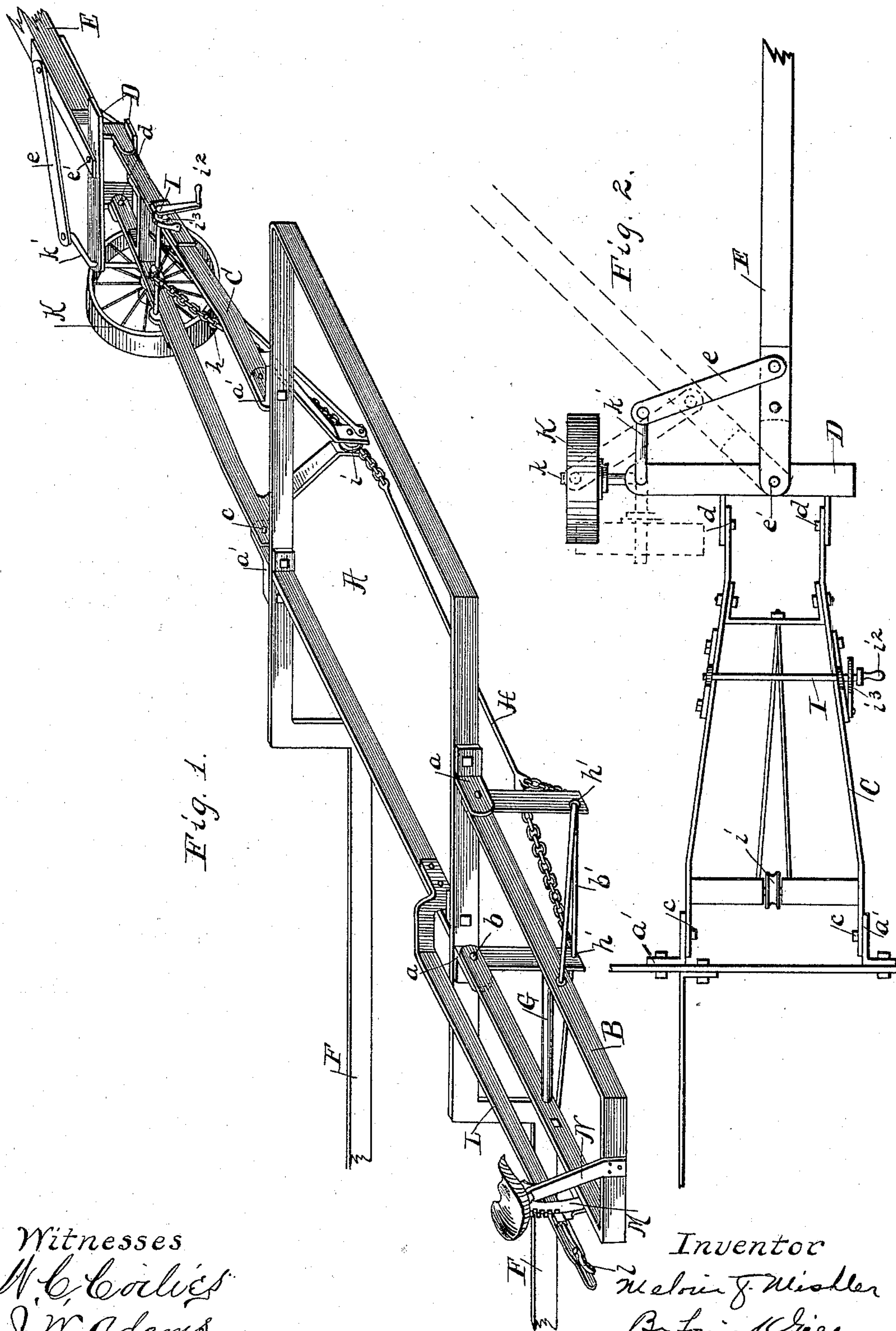


(No Model.)

M. S. MISHLER.  
HARVESTER.

No. 492,412.

Patented Feb. 28, 1893.



Witnesses  
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# UNITED STATES PATENT OFFICE.

MELVIN S. MISHLER, OF CHICAGO, ILLINOIS.

## HARVESTER.

SPECIFICATION forming part of Letters Patent No. 492,412, dated February 28, 1893.

Application filed May 31, 1892. Serial No. 435,047. (No model.)

*To all whom it may concern:*

Be it known that I, MELVIN S. MISHLER, 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 Harvesters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to grain harvesters and binders and has for its object such a construction of the frame of the machine as to provide a low horizontal binding table and means for adjusting its elevation, and also the further object of providing such an arrangement of the guide-wheel as will facilitate the turning of the machine.

In the accompanying drawings, Figure 1 is a perspective of the frame of my improved machine. Fig. 2 is a plan view of the forward portion of the frame.

I have shown in the drawings only such parts of the machine as relate to my invention.

The frame is formed of the middle, rear, and front sections, A, B, C. Section A is intended to support the binder table or platform,—the grain table being rigidly attached to it and supported by the sills F, F. The binder table is at a greater elevation than the grain table, as indicated, for the purpose of affording space beneath it for the play of the binder needle.

The main or drive wheel, not shown, is mounted upon the axle G, which is journaled in the side bars of section B. The frame A, is provided at its rearward end with backward projecting hinge brackets *a, a*, by means of which it is pivotally attached to the frame B, as shown at *b*, so as to allow of vertical flexure.

The third section, C, of the frame of the machine is hinged to section A, by means of pivots passing through the brackets *a', a'*, as shown at *c*, so as to allow of vertical flexure.

The side bars of section C, may be parallel or they may converge forward as shown, and are united at their forward ends by a single

cross-piece, and at their rearward ends by a downwardly projecting bracket which carries a roller *i*, hereinafter referred to.

The forward ends of the side bars of section B, project downwardly, their ends being united by a rigid cross-bar *b'*. A cable, or, as shown, the combination of a rod H, and a chain *h*, extends from the lower ends of the side bars of section B, as shown at *h', h'*, under the roller *i*, to a windlass I, mounted transversely on section C. This windlass is provided with an ordinary crank *i²*, and a stop device consisting of a simple ratchet and pawl *i³*. A lever arm L, is rigidly attached to one of the side bars of section A, and projects backward alongside of section B, and is provided with a spring pawl *l*, of ordinary form, for engaging a segmental rack M, projecting upwardly from the adjacent side bar of section B.

The binder table is elevated by the winding of the chain *h*, upon the windlass, thus shortening the distance between the latter and the points *h', h'*. This operation tends to tilt the outer sections by raising their adjacent ends, and the binder table is carried up with them. For the purpose of better controlling the action it is advisable to allow sections A and B to remain locked together by the pawl *l*, until the chain has been sufficiently shortened. The pawl being now released the joint uniting sections A and B is easily flexed by means of the lever L, the binder table being brought to a horizontal position and the rearward section tilted to a greater degree.

In the use of a harvester frame constructed as above described, it is necessary that the forward end of the machine be supported by a wheel.

Difficulty arises from the use of such a wheel in turning the machine, it being necessary in order to avoid loss of time to make a right angle turn, the machine turning upon the main or driving wheel as an axis. To accomplish this purpose and for the additional object of bringing the forward end of the machine as near the ground as possible while permitting the use of a large guide-wheel, I make use of a truck D, for this wheel which is hinged, so as to swing vertically, to the forward end of the side bars of section C, as



shown at  $d, d$ . The truck is extended laterally beyond one side of the frame C, and a guide-wheel K, runs at the end of it. The axle  $k$ , of the guide-wheel is bent upwardly so as to be journaled vertically in the truck D, and its upper end is provided with a short crank arm  $k'$ , which is united to the tongue E, of the harvester, by means of the link  $e$ . The tongue E, is pivoted to the truck D, at  $e'$ , so as to swing horizontally. The link  $e$ , is pivotally secured to the tongue E, at a distance from the pivotal point of the latter, greater than the length of the crank arm  $k'$ , so that a slight angular movement of the tongue E, communicates a greater angular movement to the guide-wheel K, as indicated by the dotted lines in Fig. 2.

I have not shown the means of elevating the outer end of the grain table as any of the methods in use for this purpose may be adopted.

It is obvious that the location of the downwardly projecting bracket carrying the roller  $i$ , may be upon the frame A, instead of upon the frame C, as shown, or that various changes of this character might be made without departing from the scope of the invention. The essence of the invention is that the forward and rearward sections are united by a cable or chain passing below the central section, some portion of the cable being depressed, when the binder table is at its lowest elevation, below the supporting points of the sections to which it is attached so that the shortening of the cable will tilt the two outer sections, carrying up the central section.

I am aware that harvesters and binders have been made with jointed frames and with a forward or guide-wheel adapted to be turned sharply by a slight angular movement of the tongue of the machine, and I do not broadly claim these features.

What I claim as my invention, and desire to protect by Letters Patent, is—

1. In a grain harvester and binder the combination with a main or binder-table frame A, of a drive-wheel-frame B, behind said main frame and a forward or guide-wheel frame C,

in front of the frame A, said frames being jointed together so as to admit of vertical flexure, and a cable or chain connecting the rearward and forward frames and passing under a downwardly projecting bracket substantially as described.

2. In combination with a grain harvester frame comprising three sections jointed together, of a cable connecting the forward and rearward sections and adapted when shortened to raise the adjacent ends of said sections, mechanism for varying the length of the cable between the points of its attachment, and a locking lever fixed to one section of the frame and adapted to engage a rack upon an adjacent section, substantially as described.

3. In a harvester the combination with a jointed frame and mechanism for changing the elevation of the central portion of such frame of a main or drive wheel located at the rear of said frame, a guide-wheel at the front of said frame, the axle of the guide-wheel being carried by a vertical spindle having a crank arm  $k'$ , and a link connecting the crank arm with the harvester tongue, the point of attachment of the link to the tongue being at greater distance from the pivotal point of the tongue than the length of the crank arm  $k'$ , substantially as described.

4. In combination with a harvester having its drive wheel at the rear of the binder table, a guide-wheel located at the front of the machine, the axle of the wheel being carried by a vertical spindle journaled in the machine frame, a crank arm attached to said spindle, and a link connecting the crank arm with the tongue of the machine, the link being pivotally attached to the tongue at a distance from the pivotal point of the tongue exceeding the length of the crank arm, substantially as described.

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

MELVIN S. MISHLER.

Witnesses:

JAMES J. TOLES,  
L. K. GILLSON.