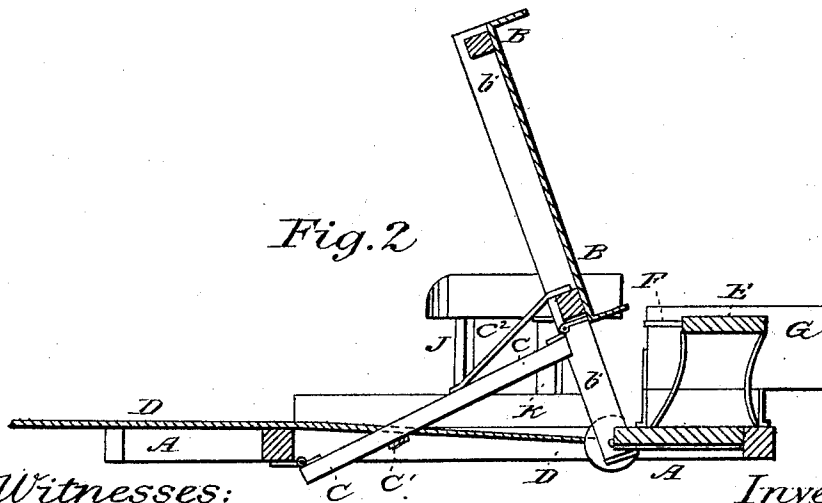
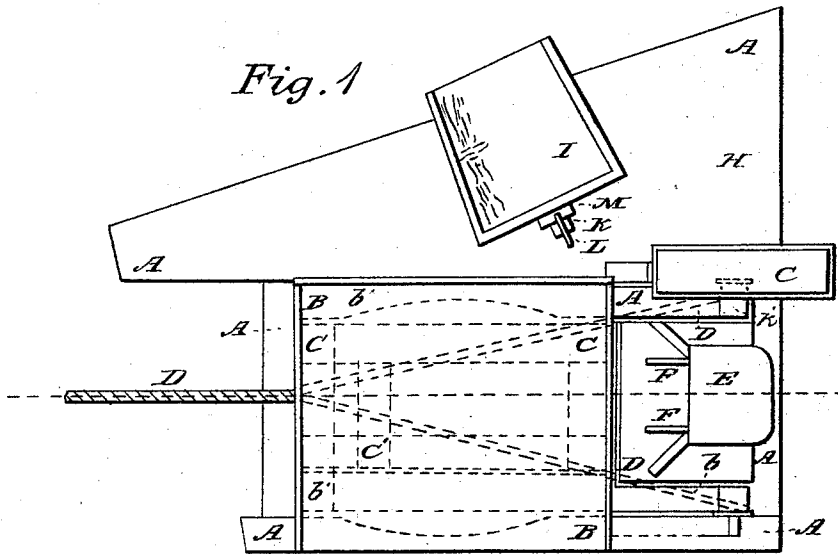


J. K. BULL.
Grain Binder.

No. 81,875.

Patented Sept. 8, 1868.



Witnesses:
H. C. Ashkettle
J. A. Morgan.

Inventor:
J. K. Bull
per M. A. Morgan
Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH K. BULL, OF BUCKINGHAM, IOWA.

IMPROVEMENT IN GRAIN-BINDERS.

Specification forming part of Letters Patent No. 81,875, dated September 8, 1868.

To all whom it may concern:

Be it known that I, JOSEPH K. BULL, of Buckingham, in the county of Tama and State of Iowa, have invented a new and Improved Binding Attachment for Reapers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a top view of my improved attachment, the platform being lowered. Fig. 2 is a vertical section of the same, showing the platform raised.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved attachment for reapers, to facilitate the binding of the grain, and at the same time to enable the bundles to be deposited upon the ground in groups of six or more; and it consists in the construction and arrangement of the various parts, as hereinafter more fully described.

A is the frame of my improved attachment, the forward end of which is hinged to the rear part of the reaper-platform, so that, as the grain is swept or raked from the said reaper-platform, it may be received upon the movable part B of the attachment.

The rear part of the attachment rests and is carried upon castor-wheels, (not shown in the drawings.) The forward part of the movable platform B is covered with zinc, and has flanges at its rear and forward ends, as shown in Fig. 2. The longitudinal bars *b'* of the frame of the movable platform B extend back, and have guide-pins projecting from the outer sides of their ends, which said pins enter and work in grooves in the frame A.

C are bars, the rear ends of which are hinged or pivoted to the rear cross-bar of the frame of the movable platform B, the forward ends of which are pivoted or hinged to the frame A, and which are kept in proper relative position by means of a cross-bar, *c'*.

*c*² is a flexible or elastic band, attached to the frame of the movable platform B and to the pivoted or hinged bars C, to prevent said

movable platform from tipping over too far when raised.

D is a cord, strap, or chain, the rear ends or end of which is attached to or connected with the rear ends of the bars *b'*, and the forward end of which is connected with a crank attached to the reel-shaft or pinion-wheel, which ever drives the rake. As the cord or chain D is drawn forward by the movement of the said crank, the hinged bars C compel the forward end of the movable platform to rise, depositing the grain upon the knees of the operator, who sits upon the seat E, or upon the arms F projecting from said seat.

The man sitting upon the seat E forms the band, passes it around the bundle, and places the bundle, with the ends of the band projecting upward, in the box or trough G, and is ready to receive the next bundle. The second man, who stands upon the platform H, then ties the band and places the bundle in the box I.

The box I is pivoted to supports J, attached to the frame A or to the platform H. The rear end of the box I rests upon the support K, where it is secured in place by the pivoted catch L, pivoted to the upwardly-projecting end of the support K, and which takes hold of the catch-plate M, attached to the said box I.

When the desired number of bound bundles have been placed in the box I, the man upon the platform H detaches the pivoted catch L from the catch-plate M, which allows the box I to tip, depositing the bundles in a heap upon the ground.

I claim as new, and desire to secure by Letters Patent—

1. The movable platform B, hinged or pivoted bars C, and cord or chain D, in combination with the frame A, substantially as herein shown and described, and for the purposes set forth.

2. The combination of the seat E, box or trough G, and pivoted box I, with each other and with the movable platform B and frame A, substantially as herein shown and described, and for the purpose set forth.

Witnesses: JOSEPH K. BULL.

JAMES R. BULL,
ANDREW McCORNACK.