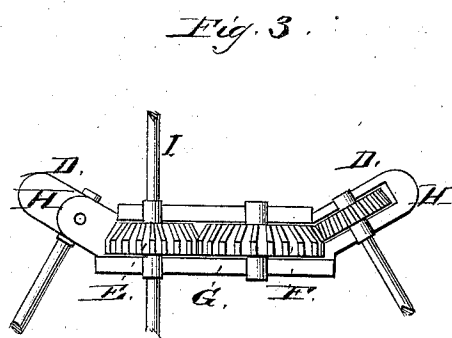
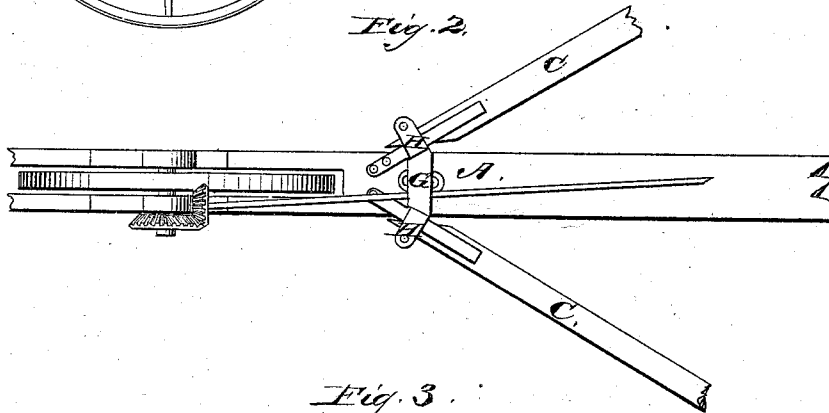
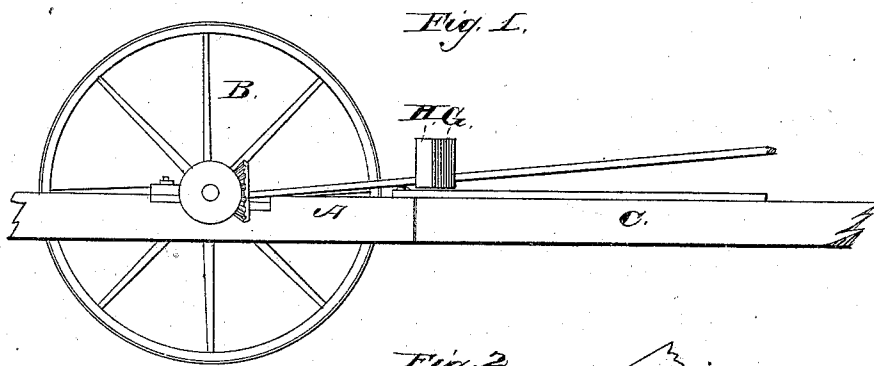


J. KING.
Grain-Drills.

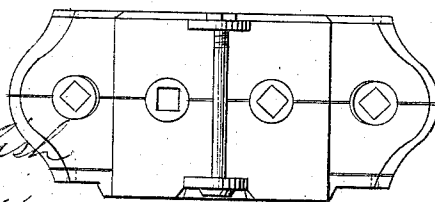
No. 138,166.

Patented April 22, 1873.



Witnesses.

John English
Frank C. Fry



Inventor.

Jacob King

UNITED STATES PATENT OFFICE.

JACOB KING, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF HIS
RIGHT TO BERNER, ENGLISH, & OVER, OF SAME PLACE.

IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. **138,166**, dated April 22, 1873; application filed
February 15, 1873.

To all whom it may concern:

Be it known that I, JACOB KING, of Indianapolis, in the county of Marion and State of Indiana, have invented certain Improvements in Grain-Drills, of which the following is a specification:

My invention consists in the construction and arrangement of the gearing that operates the feed apparatus in that class of grain-drills in which the side hoes are attached to bars that are made adjustable so that they may be contracted or expanded to adjust the width of the rows at pleasure; the object being to construct and arrange the gearing in such a manner that it will operate equally well at any angle at which the side bars C C may be set. This I accomplish by pivoting the boxing in which the side gear-wheels are hung, in the case in which the driving-pinion is hung, in such a manner that they engage properly with the driving-pinion when the side hoes are adjusted at any desired angle, as will be hereafter more fully explained.

Figure 1 is a side elevation of a grain-drill embodying my invention. Fig. 2 is a top or plan view of the same, the top of the case or box containing the gearing being left off to show more clearly the arrangement of the gearing. Fig. 3 is an enlarged top view of the box or case G H H in which the gearing D D E F is arranged.

A is the center bar of the frame, usually made of wood, and to which the driving-wheel B is hung, all being arranged in a manner similar to drills of this class. C C are bars of wood, to which the side hoes and feed appa-

ratus are attached and pivoted to the center or principal bar A, as shown, so that they may be adjusted to any desired angle. The gearing by which the feed apparatus is operated is shown at D D E F. G is the case or boxing in which the principal driving-pinion E and idler F are hung, and H is the pivoted boxing in which the pinions D D are hung that operate the feed apparatus attached to the adjustable side bars C C. The driving-pinion E and idler F are arranged so that the rod or shaft I, on the forward end of which is a bevel-wheel that gears with a similar wheel on the axle of the drive-wheel B, may pass to the side of the latter, and they are also made spur and bevel on the face so as to adapt them to engage properly with the pinions D D when the position of the latter is changed by the adjustment of the side bars C C.

The cases or boxing G H H may be made in any manner convenient and cheap to manufacture. As here shown, they are each made in two parts, separated horizontally at the center of the pivots for the convenience of casting and to avoid expense of fitting up.

Claim.

I claim as my invention—

The case or boxing G H H and wheels D D E F, constructed and arranged substantially as and for the purpose set forth.

JACOB KING.

Witnesses:

O. F. MAYHEW,
DAN. W. KNEPLER.