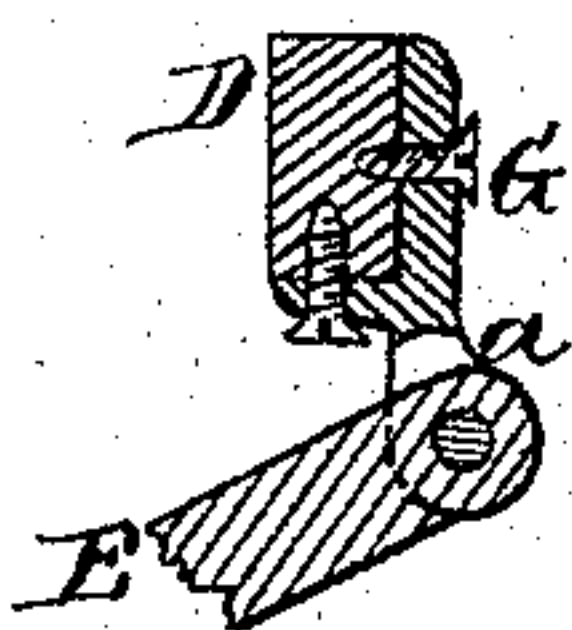
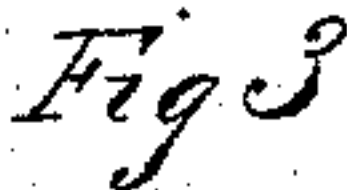
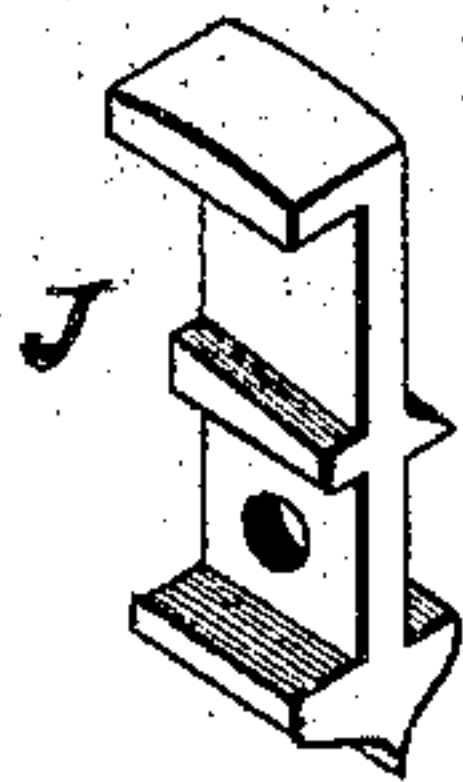
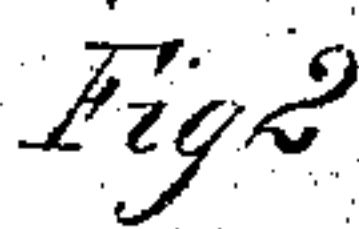
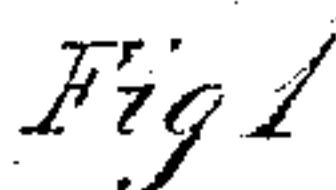


## Grain-Drills.

No. 137,929.

Patented April 15, 1873.



Witness:  
Frank L. Durand  
C. C. Everett

Inventor.  
John F. Keller.  
per Alexander Mason.

*Attorneys.*

# UNITED STATES PATENT OFFICE.

JOHN F. KELLER, OF HAGERSTOWN, MARYLAND.

## IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. **137,929**, dated April 15, 1873; application filed February 27, 1873.

*To all whom it may concern:*

Be it known that I, JOHN F. KELLER, of Hagerstown, in the county of Washington and in the State of Maryland, have invented certain new and useful Improvements in Grain-Drills; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

My invention relates particularly to grain-drills or seed-planters; and it consists in the means for attaching the hoes or boots to the rotary bars, and also in the means for operating said rotary bars to throw the hoes in a single or a doublerow, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of so much of a grain-drill or seed-planter as will illustrate my invention, and Figs. 2 and 3 are detached views of certain parts thereof.

A represents the frame, with tongue B and wheels C C, of a grain-drill or seed-planter. D D are two parallel rocking or rotary bars, hung in suitable boxes across the front end of the frame A, and to said bars are attached the hoes or boots E E by means of drag-bar at-

tachments G G. These attachments are made in the form of an L, with two ears, *a a*, between which the end of the drag-bar is pivoted. The L-shaped iron is fastened to the bar D by two screws, as shown in Fig. 3, one passing through each side of the iron. This prevents the splitting of the bars, which often occurs in the usual mode of fastening or attaching the attachments. On the ends of the two rocking-bars D D, on one side of the machine, are attached cogged segments *b b*, in and between which works a double rack-bar, H. The lower end of this rack-bar is pivoted to the front end of a lever, I, which is pivoted to the side of the frame A, and its rear end held in a standard, J, attached to the frame A, and grooved on the outer side to form a holder for the lever.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The rocking bars D D provided with cogged segments, in combination with the double sliding rack-bar H and lever I and the grooved metal standard J upon the frame A, as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of February, 1873.

JOHN F. KELLER.

Witnesses:

I. J. C. WILLIAMS,  
WILLIAM BEALL.