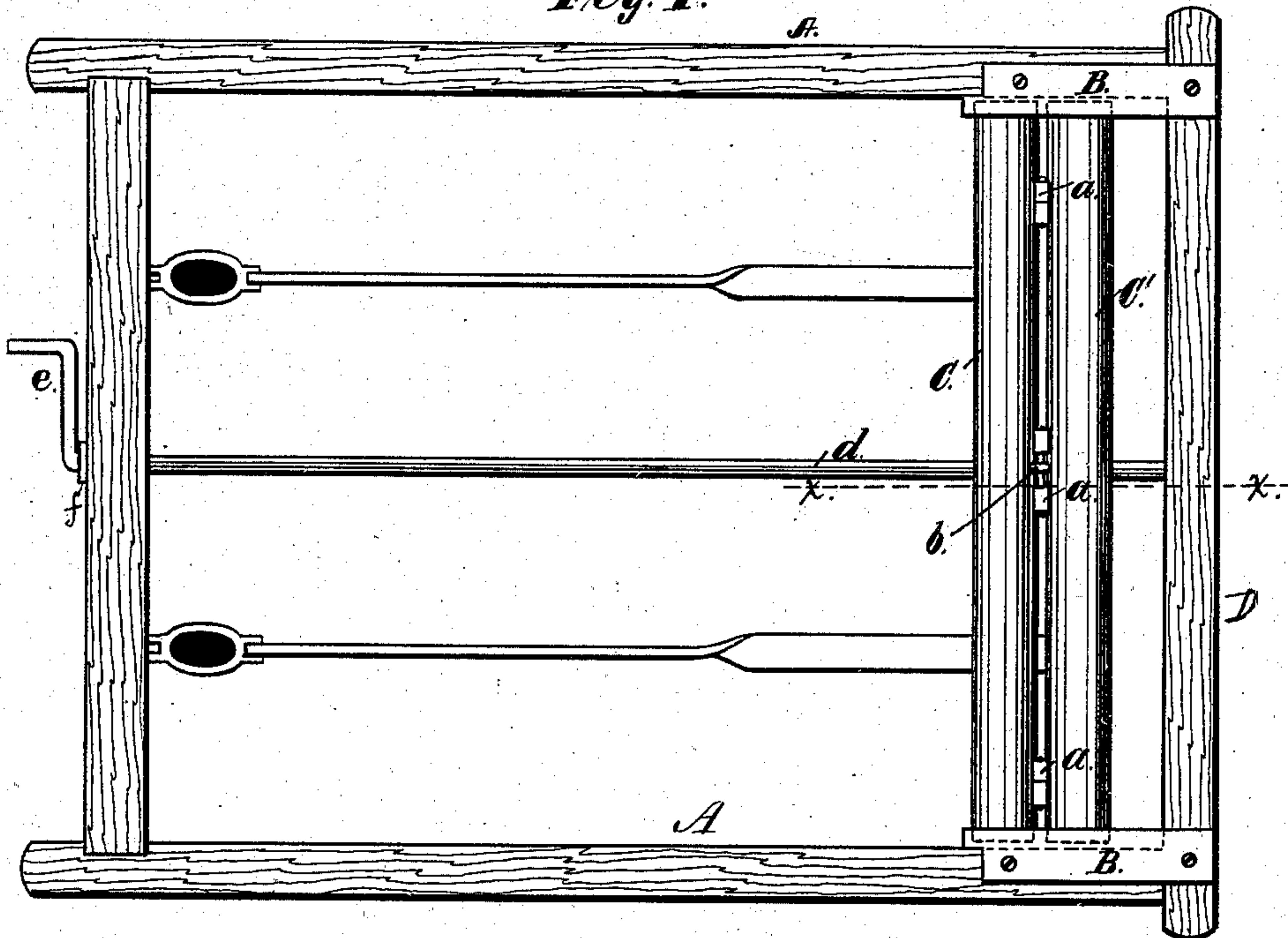


**C. F. SCHOLZ.**  
**GRAIN-DRILLS.**

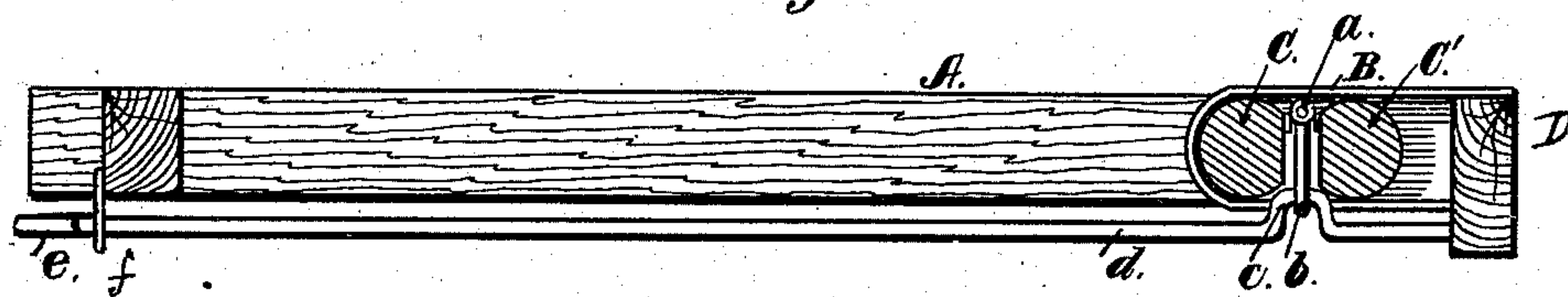
No. 194,268.

Patented Aug. 14, 1877.

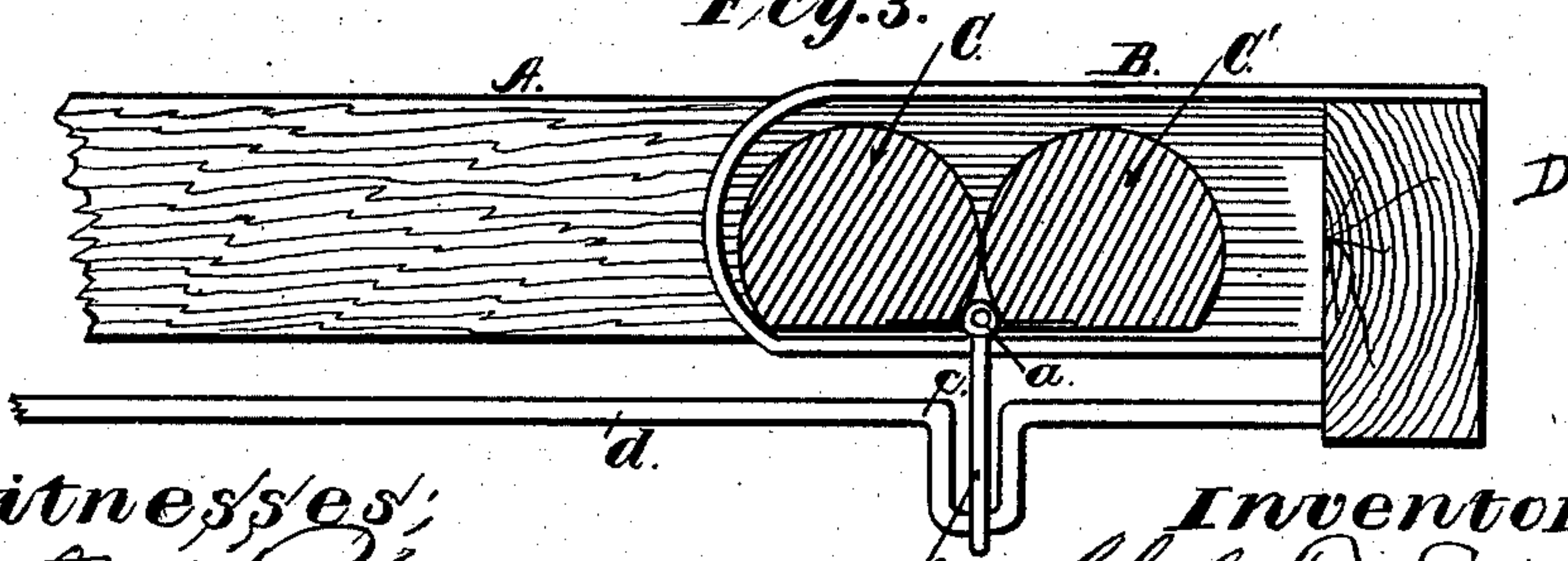
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:  
Chas. M. Beck  
Wm. Ritchie

**Inventor;**  
Chas. F. Scholz  
by his Attys  
Peck & Co.



# UNITED STATES PATENT OFFICE.

CHARLES F. SCHOLZ, OF DAYTON, OHIO.

## IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. **194,268**, dated August 14, 1877; application filed February 24, 1877.

*To all whom it may concern:*

Be it known that I, CHARLES F. SCHOLZ, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Grain-Drills; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention belongs to that class of grain-drills which have their drag-bars attached in sets to one or two adjustable transverse beams at the front of the machine, whose office is to shift the hoes from a straight to a zigzag line, or vice versa.

My improvement consists in the construction, connection, arrangement, and mode of operation of two beams, to which the forward ends of the drag-bars are alternately attached, as will be herewith set forth and claimed.

Figure 1 represents a plan view of a grain-drill frame provided with my improved shifting devices. Fig. 2 is a sectional view, in elevation, through the line *xx* in Fig. 1. Fig. 3 is an enlarged sectional view, in elevation, of the shifting-beams and crank-rod.

To the side beams *A* of a grain-drill frame, at its forward end, I bolt or otherwise secure two metal bearing-boxes, *B*, which consists of an under and an overlapping portion with a curved end, as seen in the several figures. As stated, the edges of these boxes overlap or project beyond the inner sides of the beams *A*.

*C C'* represent two beams whose shape may be seen from their cross-sections in Figs. 2 and 3.

The end of these beams are confined in the boxes *B*, and they are hinged together at three or more points by hinges *a*, of any suitable construction. From the central hinge depends an arm, *b*, whose lower end is pivoted to a crank, *c*, in a rod, *d*. This rod has its forward end journaled in the rear side of the front cross-beam *D*, and its rear end extends through a journal, *F*, behind the hopper, and is bent to form a crank, *e*.

The ends of the beam *C'* simply rest in the boxes *B*, and are not secured upon any fixed axis. The ends of the beam *C* rest in the curved ends of the boxes, as represented, and may be secured upon an axis. But I do not consider it advantageous to so secure it, inasmuch as all the strain comes from the rear, and is adequately borne by the curved ends of the boxes *B*.

Should it be desirable, the beam *C* might be pivoted upon a fixed axis to the beams *A*, and the beam *C'* might have pins projecting from its ends to rest in horizontal slots in the beams *A*, thus dispensing with the boxes.

The forward ends of the drag-bars are fastened alternately to the opposite flat edges of the beams *C C'* in the usual or in any other suitable manner. The beams occupy the position represented in Fig. 2—*i. e.*, with their flat sides together, and in vertical planes when the hoes are in single rank.

When it is desired to shift them to a zigzag rank, the rear crank of the rod *d* is turned by the attendant, and this causes the crank *c* to turn and draw down the rod *b*, which has its upper end secured to the central hinge that connects the shifting-beams.

Drawing down the rods *b* causes the beams *C C'* to turn in the boxes *B* until they assume the position shown in Fig. 3.

During the operation of shifting the beam *C'* turns eccentrically, while the beam *C* turns upon a slightly-varying axis.

By this mechanism the hoes can be rapidly shifted from a straight to a zigzag rank, or vice versa, with a very slight expenditure of power.

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

1. In a grain-drill, two beams, *C C'*, to which the drag-bars are attached, hinged directly together, as shown, in combination with and operated by the crank-rod *d* and arm *b*, as and for the purpose described.

2. The bearing-boxes *B*, with their rear ends rounded, in combination with the beams *A* and shifting-beams *C C'*, as and for the purpose described.

3. In a grain-drill, the combination of the following instrumentalities—*viz.*, two hinged beams, *C C'*, to which the drag-bars are attached, two bearing-boxes, *B*, and a crank-rod, *d*, connected by an arm, *b*, to a central hinge, *a*, all connected and operated as and for the purpose specified.

Witness my hand this 17th day of February, A. D. 1877.

CHARLES F. SCHOLZ.

Witnesses:

CHAS. M. PECK,  
PATRICK H. GUNCKEL.