C. F. SCHOLZ.
GRAIN-DRILLS.

No. 194,268. Patented Aug. 14, 1877.

Fig. 1.

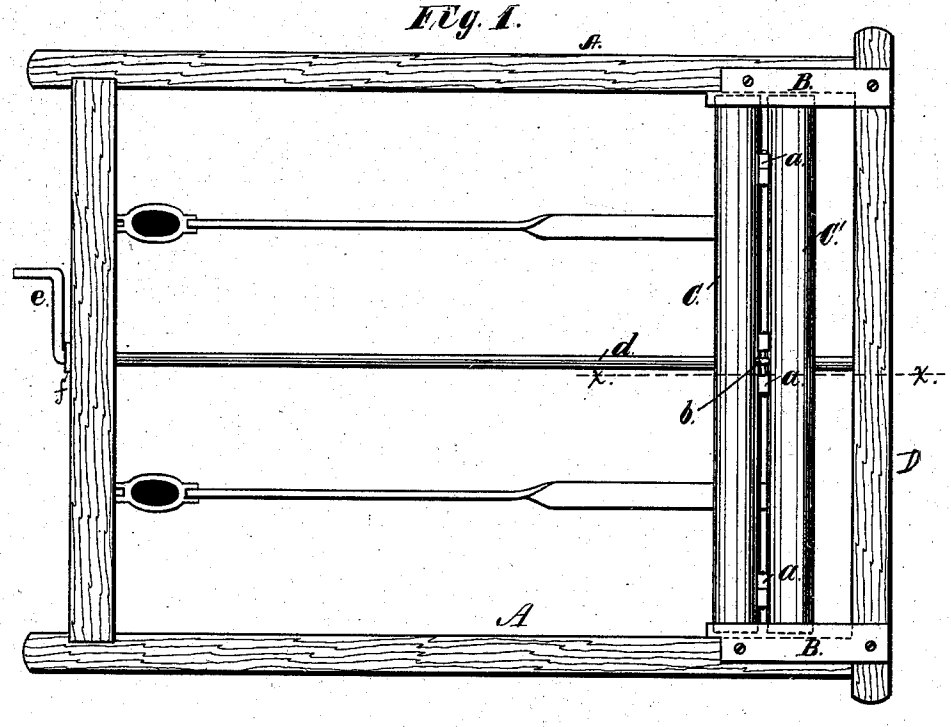


Fig. 2.

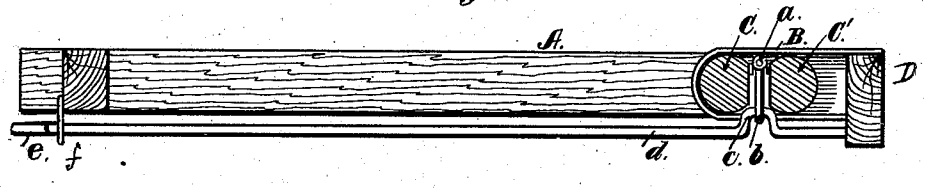
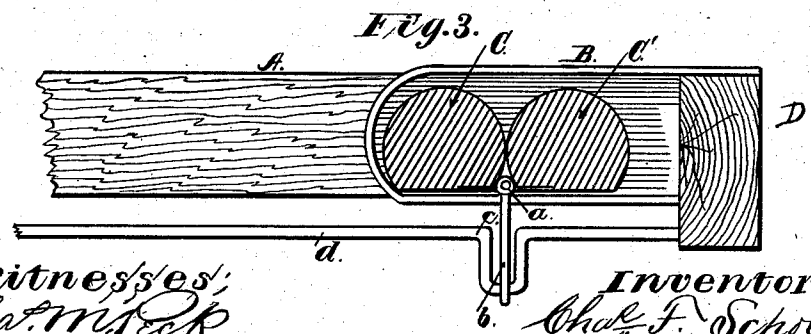


Fig. 3.



Witnesses;
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Wm Ritchie

Inventor;
Chas F. Scholz
by his Attys
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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 *x x* 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 over lapping 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.