

W. WEUSTHOFF.  
Grain-Drills.

No. 148,906.

Patented March 24, 1874.

Fig. 1.

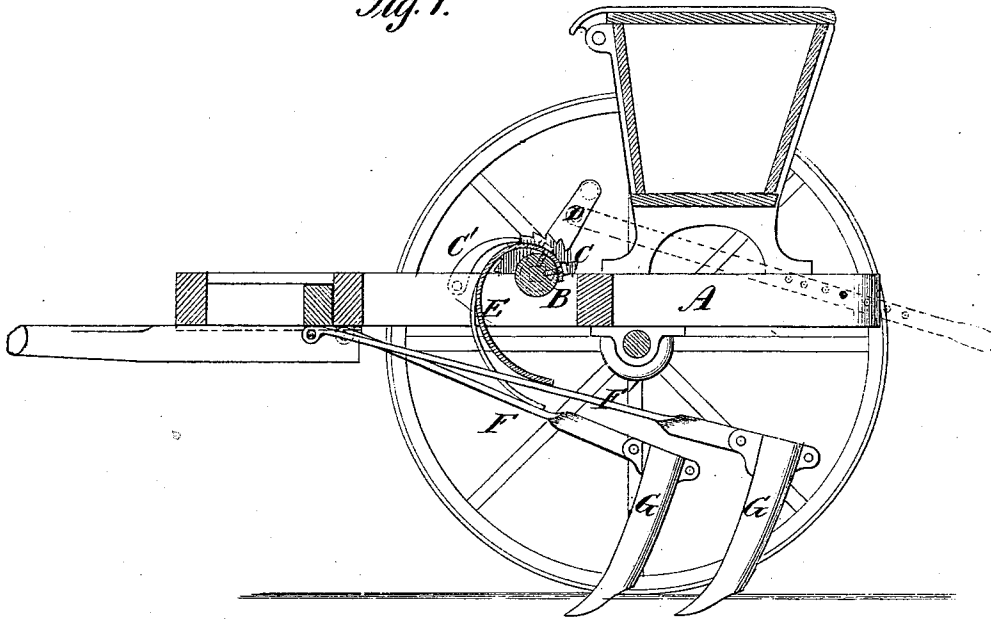
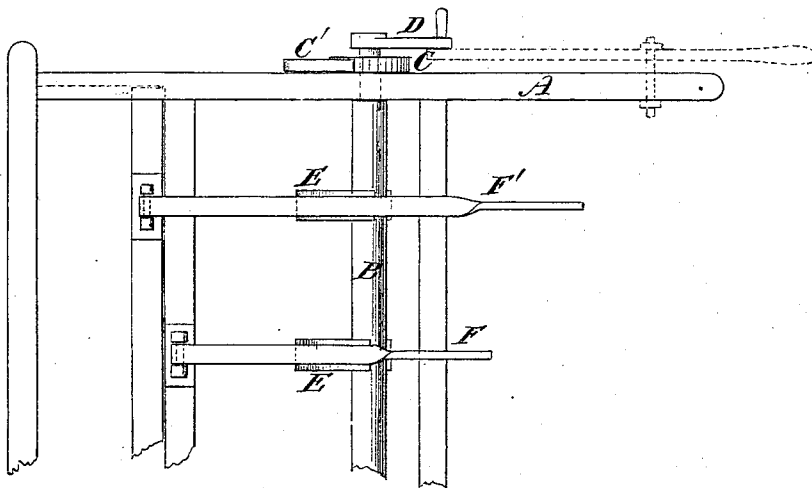


Fig. 2.



Witnesses.  
A. Ruppert,  
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# UNITED STATES PATENT OFFICE.

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MANUFACTURING COMPANY, OF SAME PLACE.

## IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. **148,906**, dated March 24, 1874; application filed  
August 8, 1873.

*To all whom it may concern:*

Be it known that I, WILLIAM WEUSTHOFF, of Dayton, in the county of Montgomery and State of Ohio, have invented a new and useful Improvement in Grain-Drills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a vertical longitudinal section, and Fig. 2 is a plan, as seen from below.

The same letters are employed in both the figures in the indication of identical parts.

This invention is intended to remedy the difficulty frequently experienced in drilling in hard ground, where the hoes fail to pass sufficiently into the ground when it is harder than usual. In such case the common practice has been to load the hoes by hanging weights on the drag-bars. My improvement consists in attaching springs to a roller or oscillating bar operated by a crank, or equivalent mechanism, the springs pressing against the upper face of the drag-bar, and pressing them down with a force depending upon the tension of the springs. The springs bearing against the upper side of the drag-bars do not interfere with the movement of the drag-bar forward and back necessary to arrange the hoes in one row or zigzag.

In the annexed drawings, A is the frame of the drill, across which I place a roller or oscillating shaft, B, turning in suitable bearings on the frame. This roller is turned by a crank or lever, D, and held in position either by a ratchet and pawl, C C', as shown in the drawings, or by the equivalent means, indicated in the drawings by dotted lines, of a rod extending back from the arm D to the rear of the machine, where it is fastened to the frame by a pin passing through one of a series of holes. Any device will answer which will turn the shaft B and hold it in any required position. The springs E are fastened to the roller. They

are sections of coiled springs, having one end attached to the roller, and their free ends bearing against the upper face of the drag-bars F, which carry the hoes G in the usual manner. The drag-bars may be in one row, or one-half of them attached to a sliding beam, to adjust them in one or two rows, according to well-known modes of construction. The springs bearing against the plane faces of the drag-bars will permit this adjustment.

When it is desired to load the hoes, it may be done by turning the roller until the springs bear against the drag-bars with the requisite amount of pressure, in which position the roller will be held by the pawl, pin, or other detent. Should the hoes encounter obstacles, the springs will yield to the increased resistance and permit the hoes to rise.

I do not claim, broadly, the use of springs to hold the hoes in the ground; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a grain-drill, of the hoes and drag-bars, with the segmental springs E attached to the shaft B, and bearing against the drag-bars with a pressure regulated by turning said shaft on its axis, substantially as and for the purpose set forth.

2. In combination with the drag-bars, the segmental springs E, shaft B, lever D, and detent for holding the shaft when the pressure has been adjusted, substantially as set forth.

3. In combination with the hoes, adjustable in one or two rows, segmental springs E bearing against the smooth surface of the drag-bars, so as to permit the latter to slide freely under the springs, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

W. WEUSTHOFF.

Witnesses:

GEO. M. YOUNG,  
B. KESHUS.