

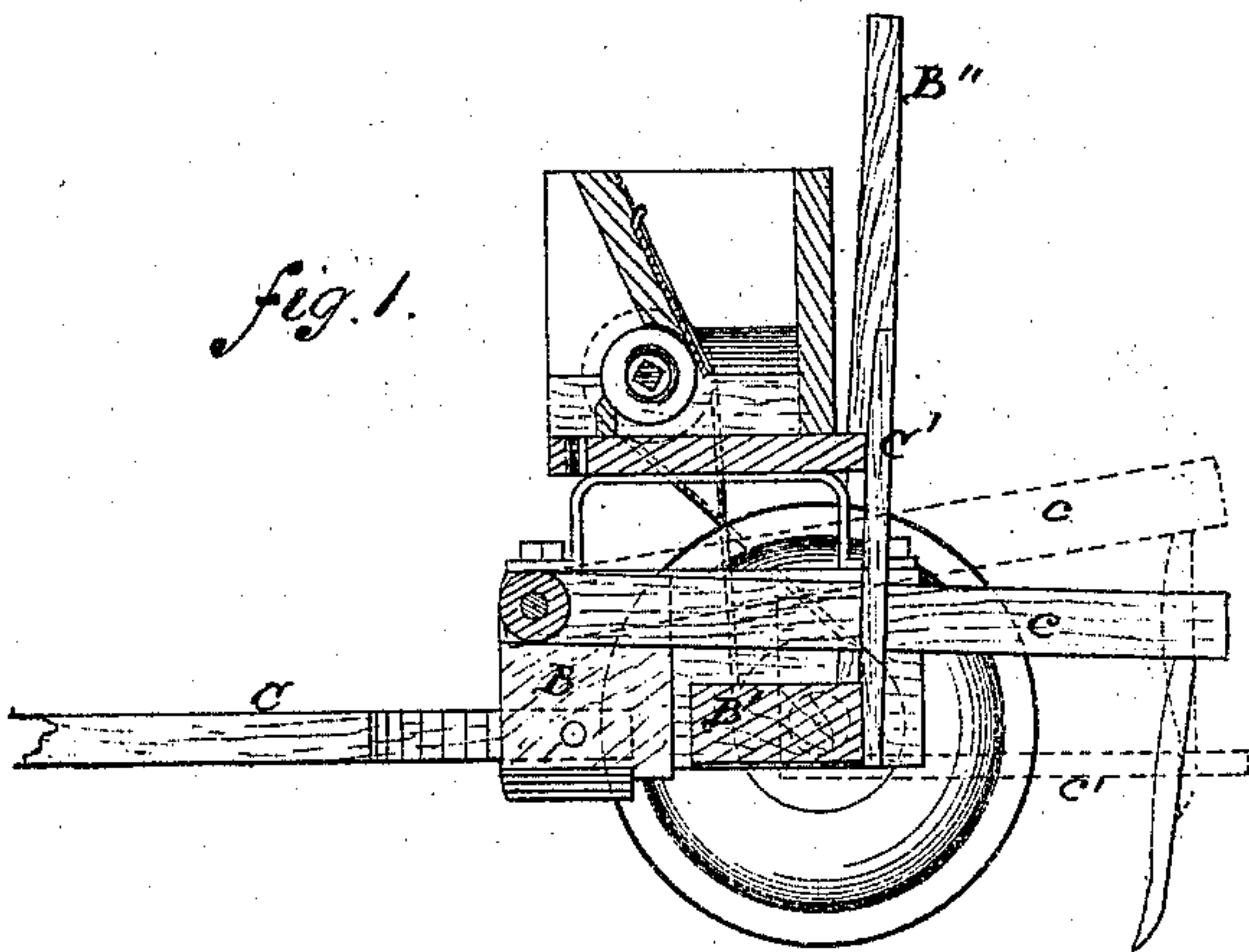
*C. Alvord,*

*Grain Drill,*

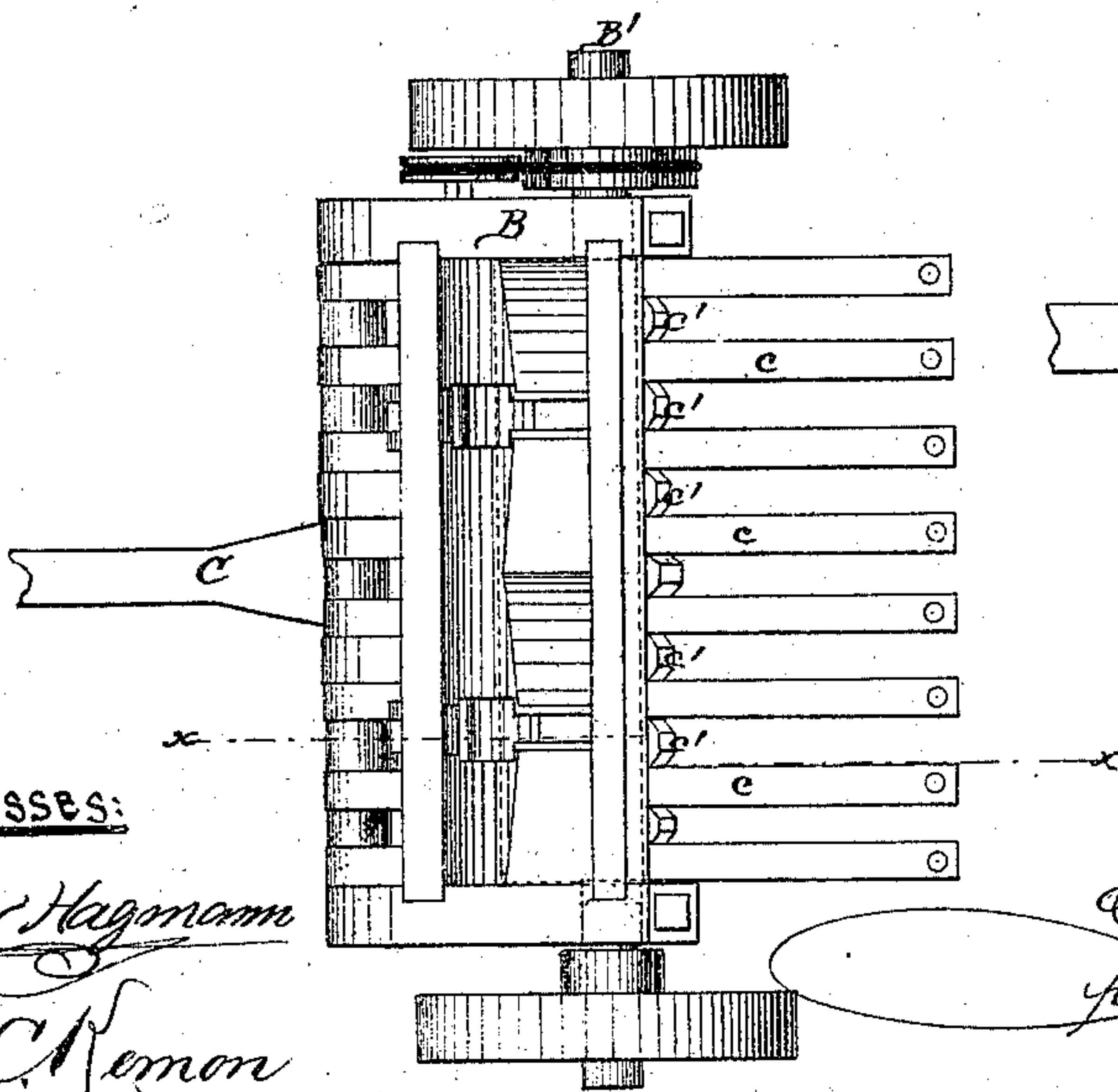
*No. 98542.*

*Patented Jan. 4. 1870.*

*fig. 1.*



*fig. 2.*

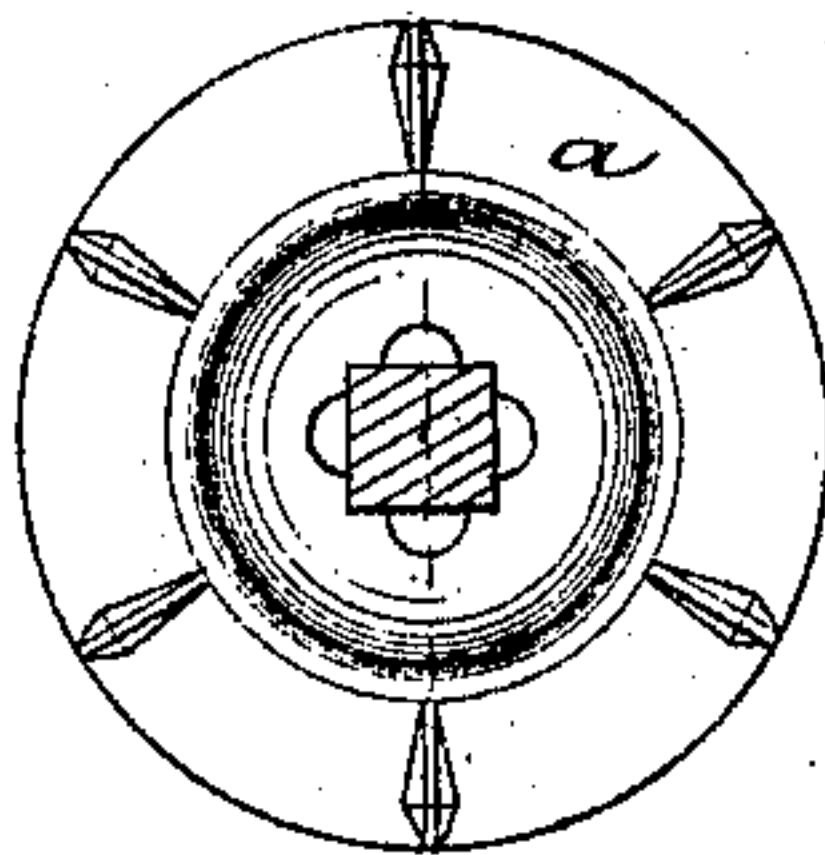


Witnesses:

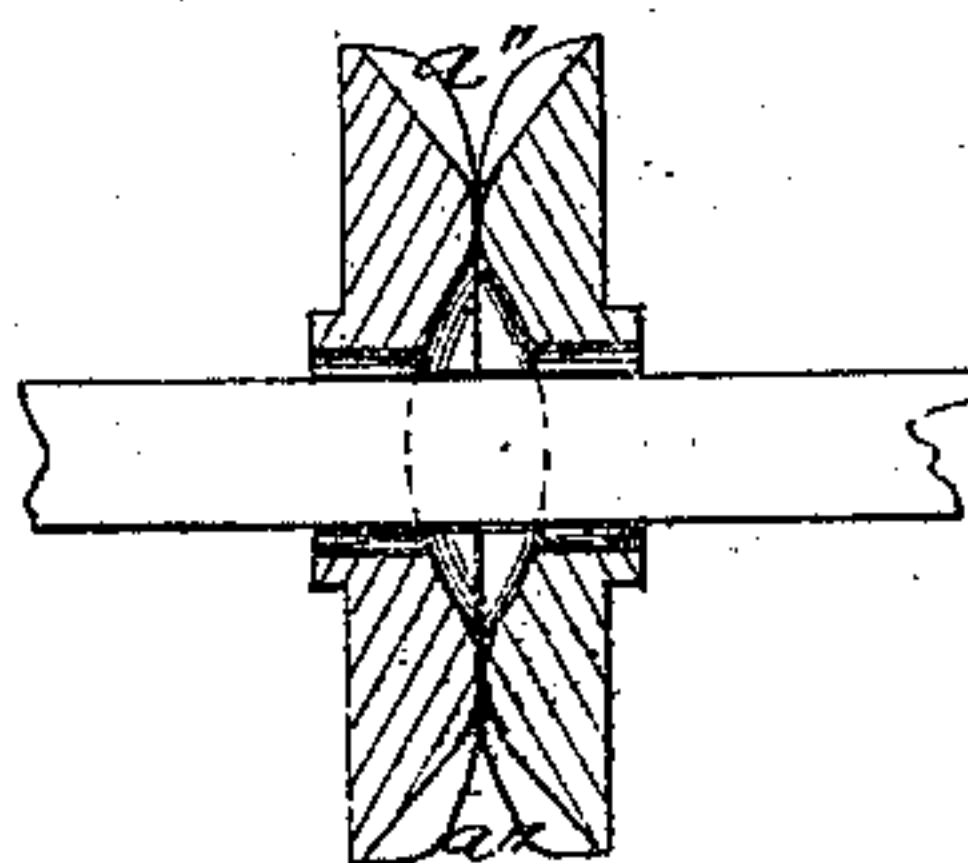
*Victor Hagmann*

*E. C. Remon*

*fig. 3.*



*fig. 4.*



Inventor:

*C. Alvord*  
*per. H. H. H. H.*  
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# United States Patent Office.

CLARK ALVORD, OF WESTFORD, WISCONSIN.

Letters Patent No. 98,542, dated January 4, 1870.

## IMPROVEMENT IN COMBINED SEEDER AND CULTIVATOR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, CLARK ALVORD, of Westford, in the county of Dodge, and State of Wisconsin, have invented a new and improved Combined Seeder and Cultivator; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a transverse vertical central section;

Figure 2, a plan view; and

Figure 3, a detached elevation of the grooved seeder-wheel.

The first part of this invention relates to a seeder; and consists of a seeder-wheel, placed in front or rear, and, for the most part, outside the seed-box, but entering partially within the same, and receiving in its circumferential V-shaped groove, a portion of the seed, which portion it carries under and out, and discharges over the stop H, the circumferential groove being provided with transverse partitions, so constructed as to carry the seed before them until the proper moment, and then discharge it over the stop.

The second part of the invention relates to a cultivator; and consists in pivoting the front ends of the drag-bars to the front side of a frame, which frame is pivoted at its rear side to the axle, the latter being of eccentric form, and capable of rotating in the wheels and in the frame, and operating, when rotated, to raise the drag-bars out of the ground, and bearing fingers, which, during such raising of the drag-bars, pass between them in an opposite direction, and the movement being continued, cleans the teeth; the tongue being also pivoted, at its rear extremity, in the said frame, and the resultant of those contrarily-acting forces, the resistance of the cultivator-teeth, and the motive-power, being the elevation of the said frame, and the consequent cessation of its pressure, and of the seeder which rests upon it, upon the horses' necks.

In the drawings—

A is the seed-box, resting on the frame B.

The inclined front side of the seed-box is vertically slotted, and in the slots are the rear portions of the seeder-wheels *a*, the main parts of said wheels being outside the seed-box.

The seeder-wheels have circumferential grooves, *a'*, of V-shape, which readily receive the seed, and are provided with cross-partitions, *a''*, which aid in propelling the seed, when in the grooves, out of the box, and to the end of the channel *b*, in which the wheel revolves.

Said cross-partitions extend unbroken across the groove, at the bottom, but not at the top, being each composed of two ridges, projecting from the sides of the groove, directly opposite each other, and not meeting at the top, but leaving a central interval, which allows the seed readily to fall out of the groove, when arrived at the end of the channel.

The frame B is pivoted, at its rear side, upon the axle B', and to its upper front corner the forward ends of the drag-bars *c* are jointed.

The tongue C is jointed, at its rear extremity, in the frame B, beneath the drag-bars. Hence, when the cultivator-teeth are dragging in the ground, the front part of the frame B is elevated by the resultant of the two opposite forces, and the weight of such frame and of the seed-box taken off the necks of the team.

The drag-bars *c* rest, when elevated, upon the edge of the eccentric axle B'.

The latter is provided with a handle-lever, B'', by turning which downward, the eccentric axle is made to stand up edgewise, and raise the drag-bars out of the earth.

At the same time, the fingers *c'*, which project from the rear of the axle, parallel with the handle, pass between the drag-bars, and clean the teeth.

This cultivator is designed to be used, on occasion, for cleaning cotton-stalks from the field, at the same time that it cultivates.

Having thus described my invention,

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

1. The seeder-wheels *a*, provided with V-shaped circumferential grooves, and centrally open cross-partitions *a''*, as and to the end set forth.

2. The eccentric axle B', combined with the pivoted drag-bars *c*, as and for the object specified.

3. The eccentric axle B', combined with the cleaning-fingers *c'*, as and for the object specified.

4. The eccentric axle B', combined with the cleaning-fingers *c'*, and pivoted drag-bars *c*, as and for the purpose explained.

5. The pivoted frame B, combined with the pivoted tongue C, and pivoted drag-bars *c*, in the manner and to the end specified.

6. The combination of a seeder with a cultivator, when the drag-bars are located between the seeding-box and axle, substantially as and for the purpose set forth.

CLARK ALVORD.

Witnesses:

CHAS. A. PETTIT,  
SOLON C. KEMON.