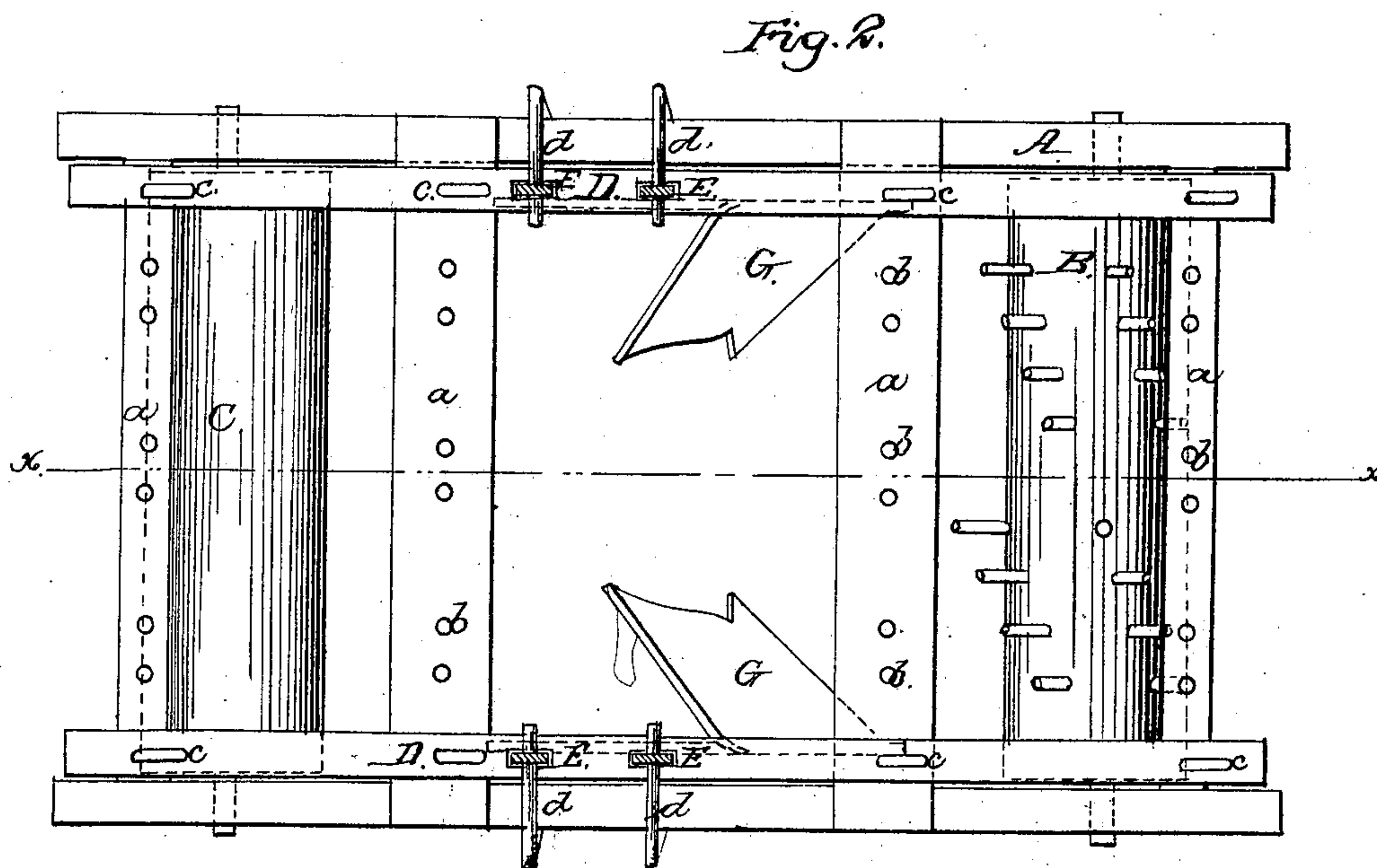
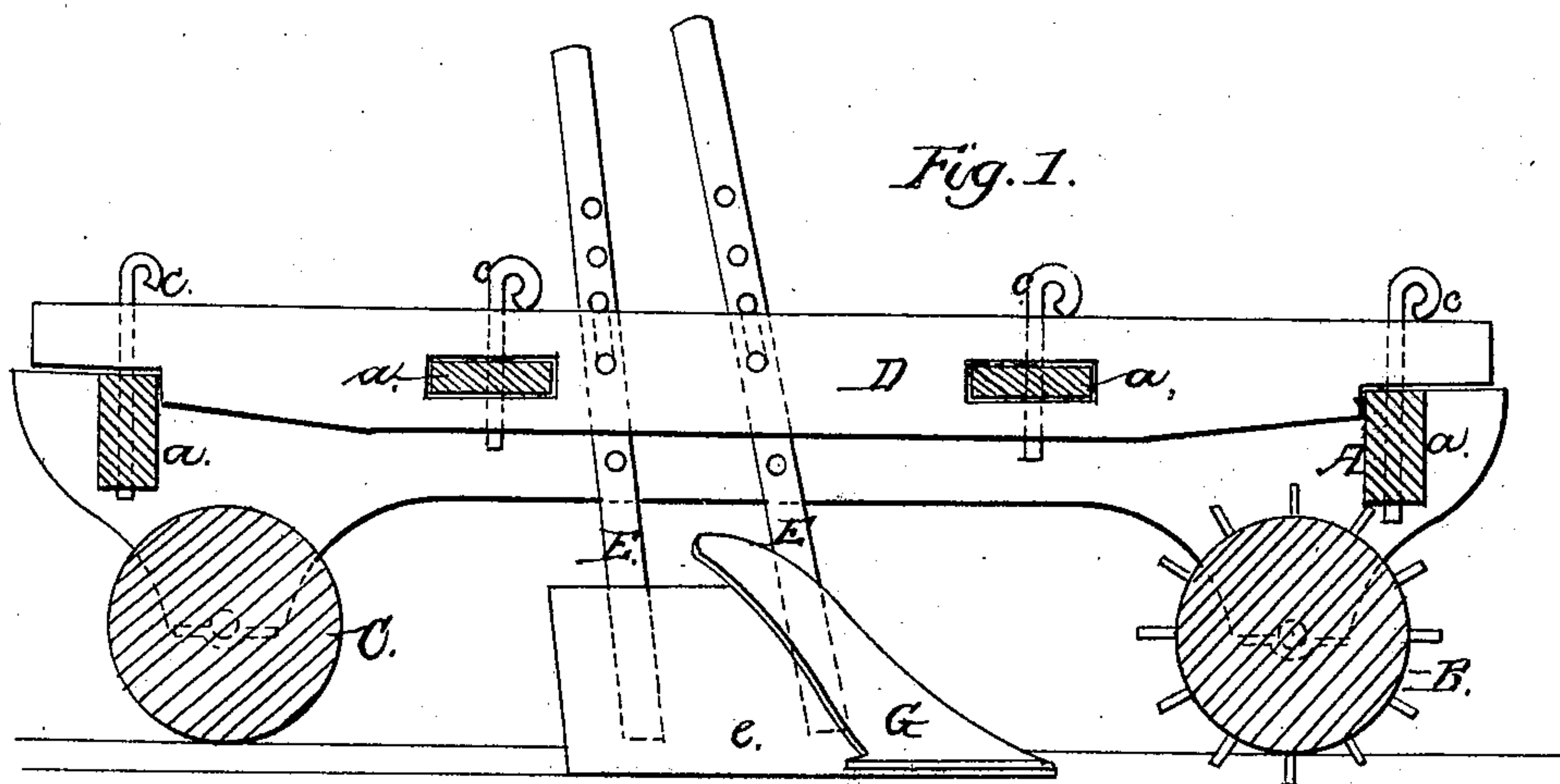


E. W. FULLER.

Rotary Harrow.

No. { 159, }  
31,163. }

Patented Jan 22. 1861.



WITNESSES:

W. Coombs.  
R. S. Spencer.

INVENTOR:

E. W. Fuller  
by Munn & Co  
attys

# UNITED STATES PATENT OFFICE.

E. W. FULLER, OF MARTINSVILLE, LOUISIANA.

## IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **31,163**, dated January 22, 1861.

*To all whom it may concern:*

Be it known that I, E. W. FULLER, of Martinsville, in the parish of St. Martins and State of Louisiana, have invented a new and Improved Cultivator; 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 a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular frame, which is shown mounted on a rotary harrow, B, and a roller, C, these parts being used when a seed-distributing device is employed. When, however, these parts are not required ordinary wheels may be used instead.

The frame A is provided with traverse bars *a*, which are perforated with holes *b*, and on which two parallel and longitudinal bars D D are fitted and allowed to slide laterally. These bars may be secured in any desired position by pins *c*.

Through each bar D there passes two vertical, or nearly vertical, bars E E. These bars E are allowed to slide freely in the bars D, and the former may be secured at any desired

point by pins *d*. To the lower ends of the bars E E there are attached plows G, which may be of the usual turning mold-board form and provided with landsides *e*.

From the above description it will be seen that the plows may be adjusted nearer together or farther apart as desired, and it will also be seen that the plows may be adjusted vertically by raising or lowering the bars E E, the latter being secured at the desired point by the pins *d*.

The plows G may be made to turn the earth toward or from the plants by reversing them—that is to say, changing them from one bar D to the other.

The frame A will admit of the application of any of the seed-distributing devices, and the wheels or rotary hammer and roller may be readily attached to and detached from the frame A.

I do not claim any feature herein described when separately considered; but

I do claim as new and desire to secure by Letters Patent—

The arrangement of the adjustable bars E E, plows G, rotary harrow B, and roller C with the adjustable bars D D, transverse bars *a*, and frame A, all in the manner and for the purpose herein shown and described.

E. W. FULLER.

Witnesses:

V. A. JOURNET,  
WM. GREEN.