

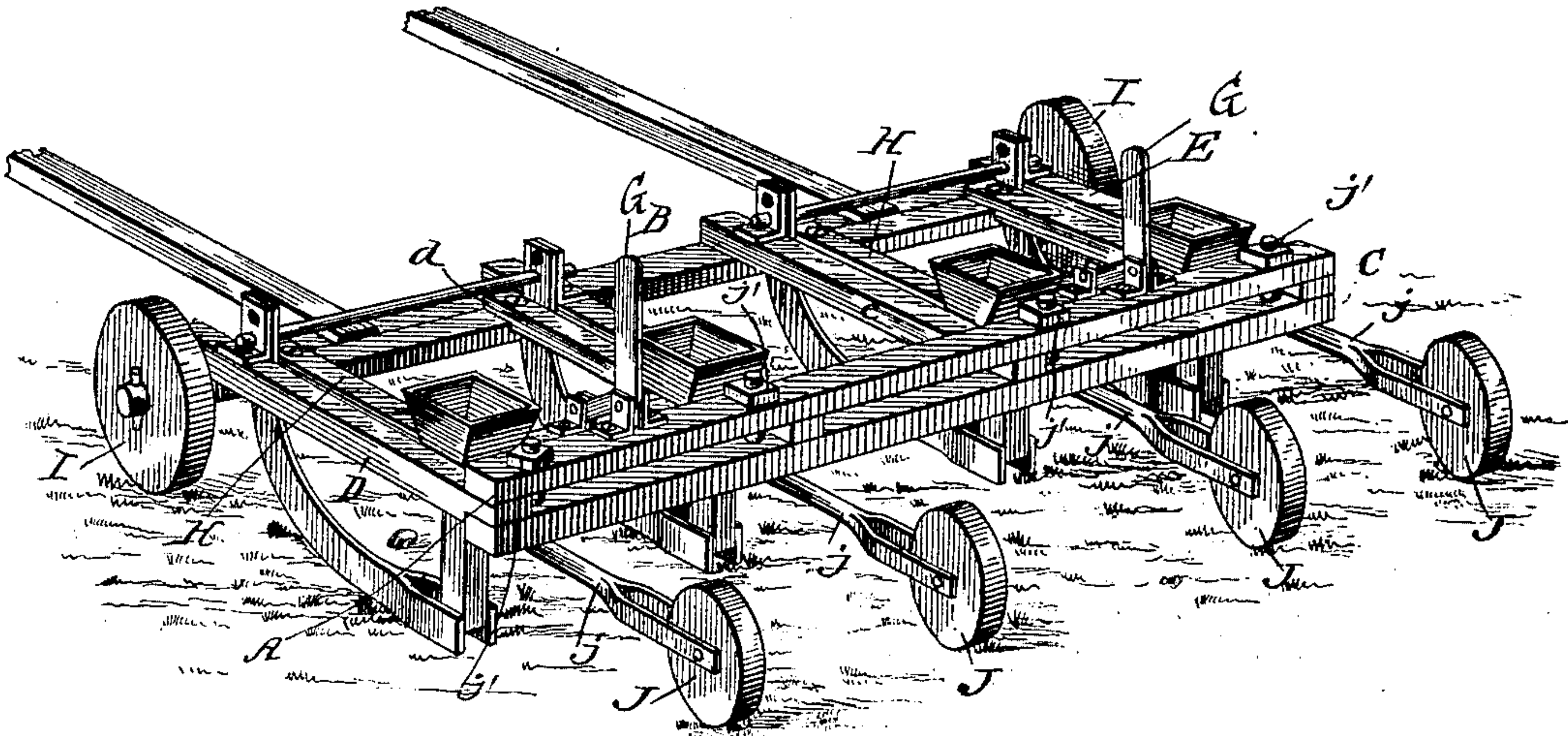
(No Model.)

J. S. HICKMAN.  
COMBINED CULTIVATOR AND SEED DROPPER.

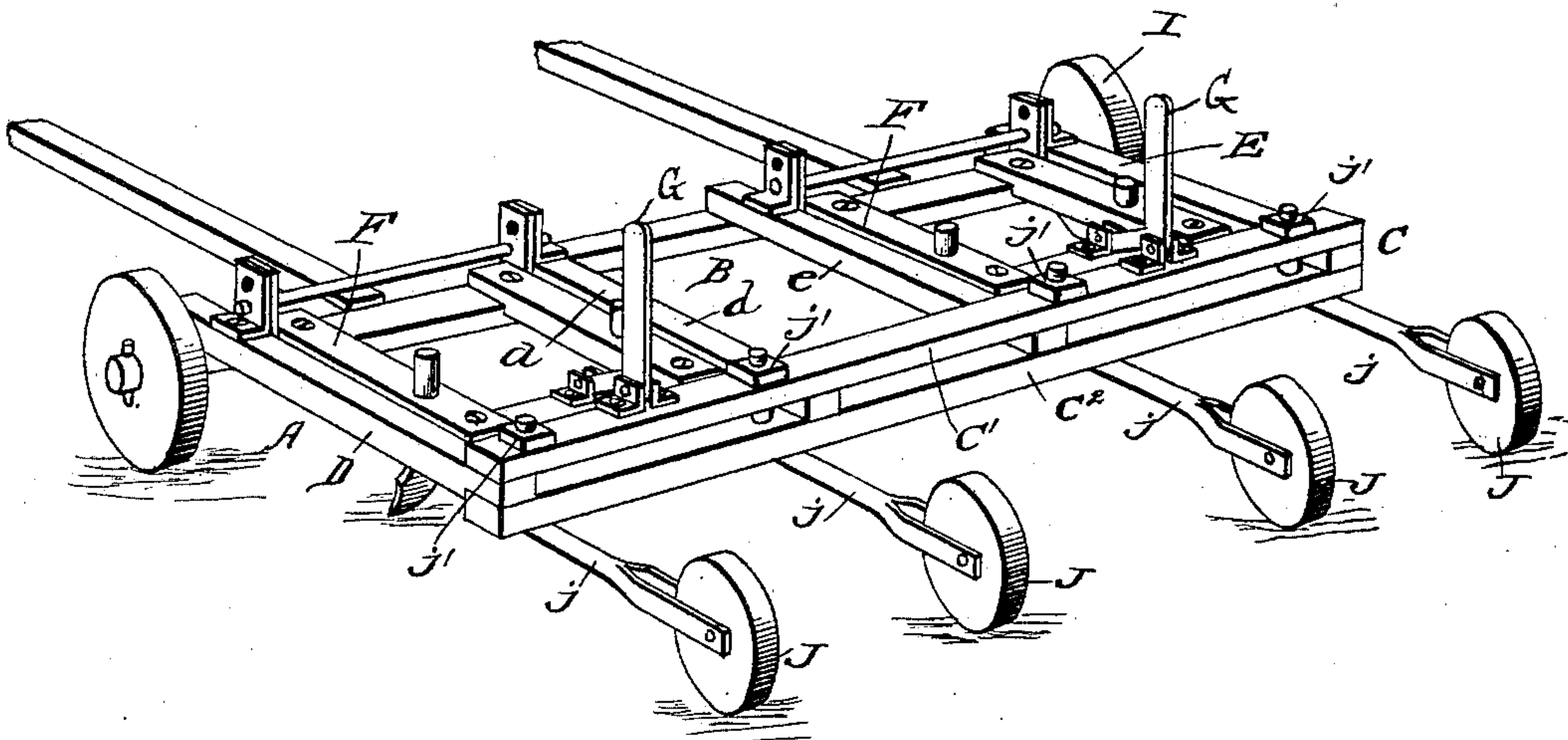
No. 435,830.

Patented Sept. 2, 1890.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*Fred G. Dietrich*  
*P. B. Turpin.*

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BY

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# UNITED STATES PATENT OFFICE.

JAMES S. HICKMAN, OF HICKMAN, ILLINOIS.

## COMBINED CULTIVATOR AND SEED-DROPPER.

SPECIFICATION forming part of Letters Patent No. 435,830, dated September 2, 1890.

Application filed February 13, 1890. Serial No. 340,307. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES S. HICKMAN, of Hickman, in the county of Iroquois and State of Illinois, have invented a new and useful  
5 Improvement in Combined Cultivators and Seed-Droppers, of which the following is a specification.

This invention is an improved combined cultivator and planter; and it consists in certain novel features of construction and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figures 1 and 2 are perspective views of the machine ready for use,  
15 respectively, as a seed-dropper and a cultivator.

The machine comprises a main frame A, having front and rear cross-bars B C, side bars D E, and intermediate connections *d e*,  
20 which, like bars D E, extend between and connect the front and rear bars, as shown.

To facilitate the secure connection of bars D *d* E *e* with the rear cross-bar and to increase the strength of the main frame, and  
25 also to provide a better bearing for the pivot-shafts of the trailing-wheels presently described, I prefer to make the rear cross-bar C of two sections C' C<sup>2</sup>, arranged one above the other, as shown, the connecting and side  
30 bars being fitted at their rear ends between said sections C' C<sup>2</sup>, and all being properly secured in suitable manner, as shown.

The bars D *d* E *e* form receiving-frames for the cultivating and planting frames, as will be  
35 described.

The cultivating-frames F are provided with suitable flukes, shovels, or teeth, and are adapted to fit in the receiving-frames of the main frame. I make these cultivating-frames  
40 adjustable by hinging them at their front ends, so they may be adjusted vertically at their rear ends, to accomplish which adjustment I provide levers G, pivoted on the main frame and connected with the rear ends of the  
45 cultivating-frames F on the planting-frames H, such frames F and H being used interchangeably, as will be more fully described.

The planting-frames H are provided with flukes or shovels or furrow-opening runners, and have suitable seed-boxes and tubes leading down therefrom at the rear end of such  
50 flukes, shovels, or disks or runners. As the dropping mechanism forms no part of the present invention, it need not be described

in detail herein. These seeding-frames H, 55 like the cultivating-frames F, are adapted to fit in the receiving-frames and to be pivoted therein and to be operated by the lever G.

It will be seen that the machine can be quickly fitted with either the cultivating or 60 the seeding frames.

At the opposite sides of the front end of the main frame I provide the supporting-wheels I, while the rear end of the said frame is supported on the trailing-wheels J, journaled in 65 the shank-bars *j*, which have vertical shafts *j'*, journaled in the rear cross-bar of the main frame. It will be noticed that the trailing-wheels are so arranged as to run one in rear of each fluke of the seeding-frames and to 70 operate in a measure as coverers.

By lifting the seeding-frames or the cultivating-frames by the aid of the levers the machine may be conveniently turned at the end of a row. 75

In the seed-dropping arrangement the drop-bar for dropping the seed is intended to be sectional and hinged with ball-and-socket joint.

Having thus described my invention, what 80 I claim as new is—

1. In a machine, substantially as described, the combination of the main frame divided into a number of receiving-frames and provided at its front end with supporting-wheels 85 and at its rear end with back supporting or trailing wheels having their supports pivoted to the main frame, the frames fitted in the receiving-frames and pivoted at their front ends to the main frame, and devices for lifting such frames, substantially as set forth. 90

2. The improved machine herein described, comprising the main frame having front, side, rear, and connecting bars and having its rear bar formed with upper and lower sections, 95 the frames fitted in the main frame between the side and connecting bars and pivoted at their front ends, the levers for adjusting such frames at their rear ends, the supporting-wheels arranged at the front end of the main 100 frame, and the back supporting or trailing wheels having their supports provided with shafts journaled in the rear cross-bar of the main frame, substantially as set forth.

JAMES S. HICKMAN.

Witnesses:

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