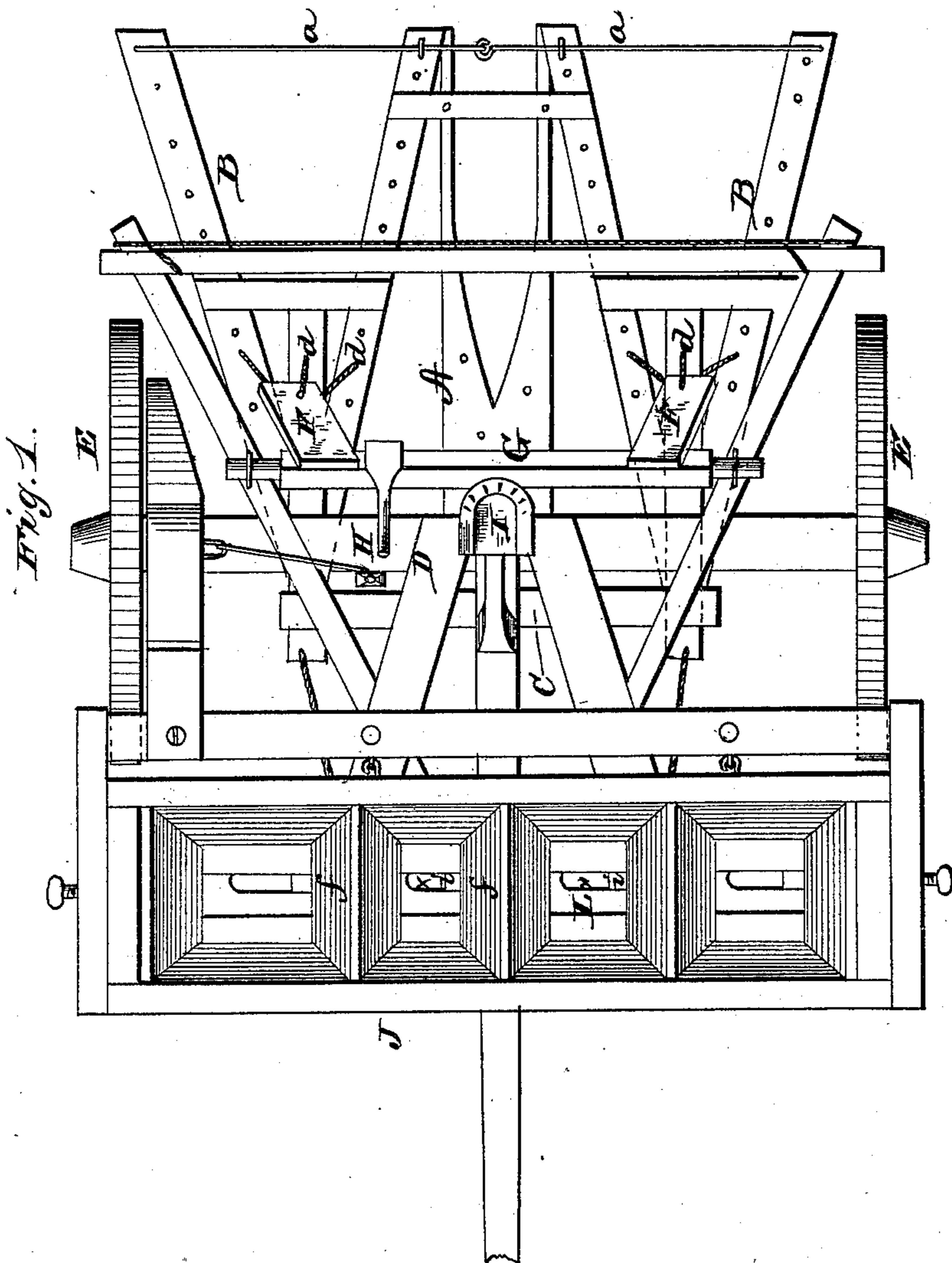


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Wheeled-Harrow and Seeding-Machine Combined.  
No. 207,025. Patented Aug. 13, 1878.



WITNESSES  
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Fig. 2.

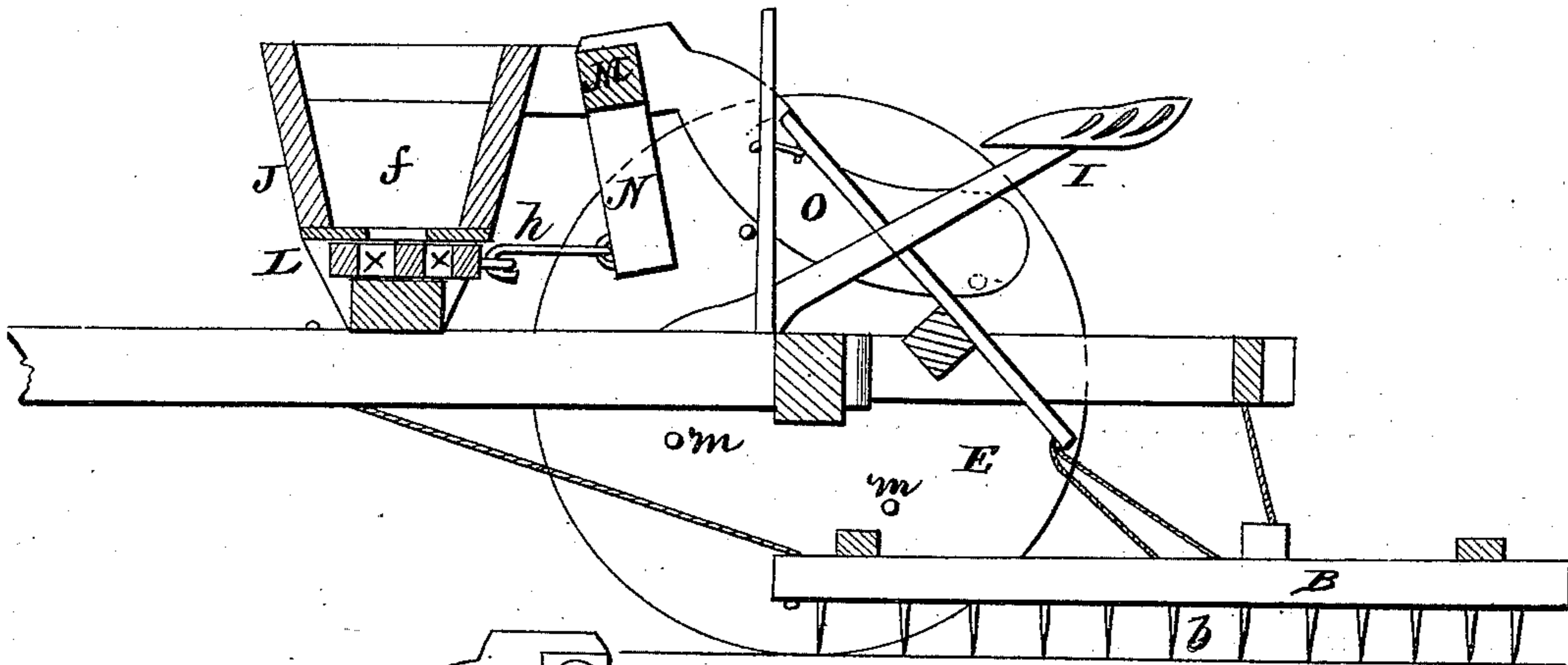


Fig. 4

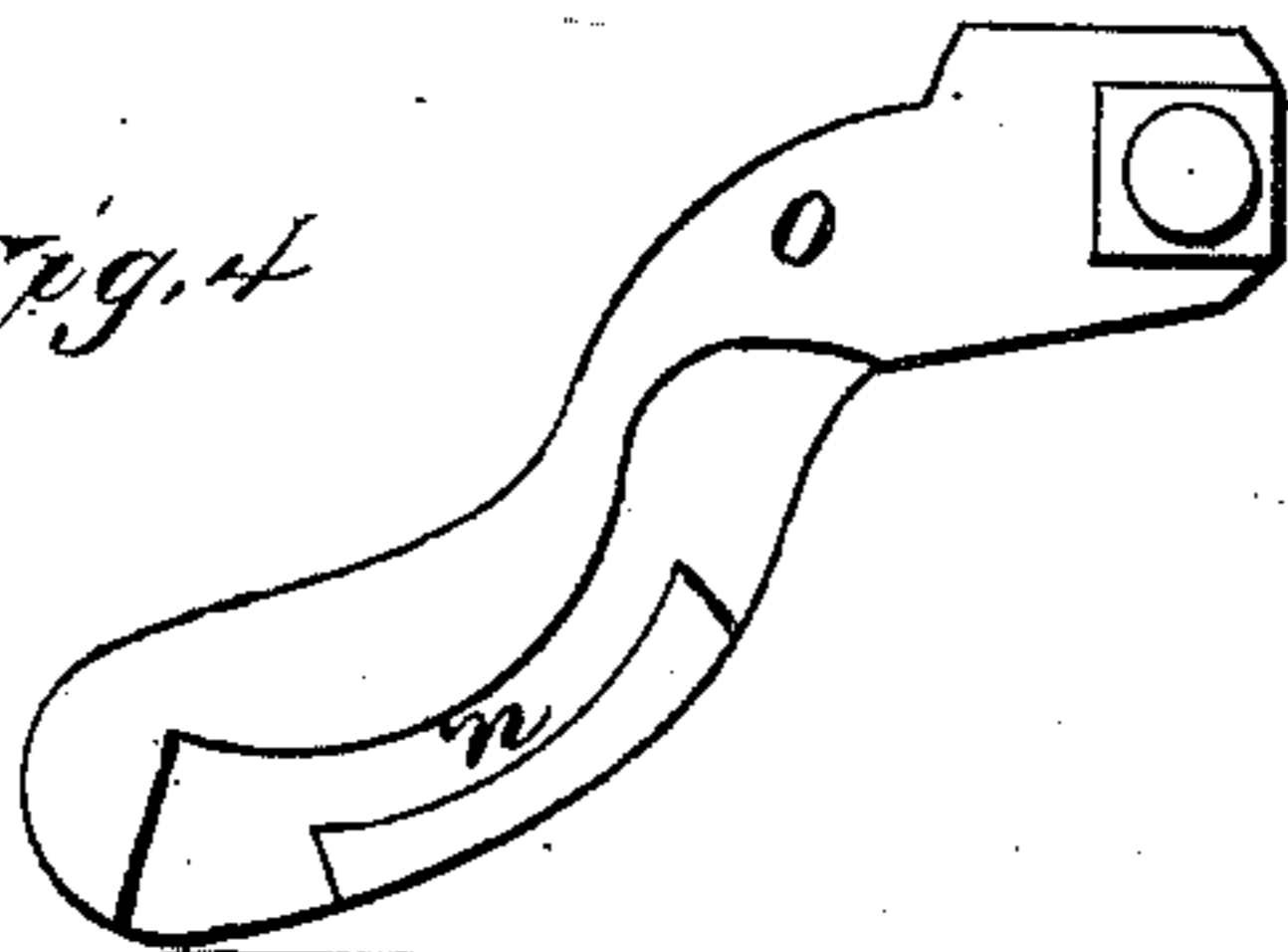
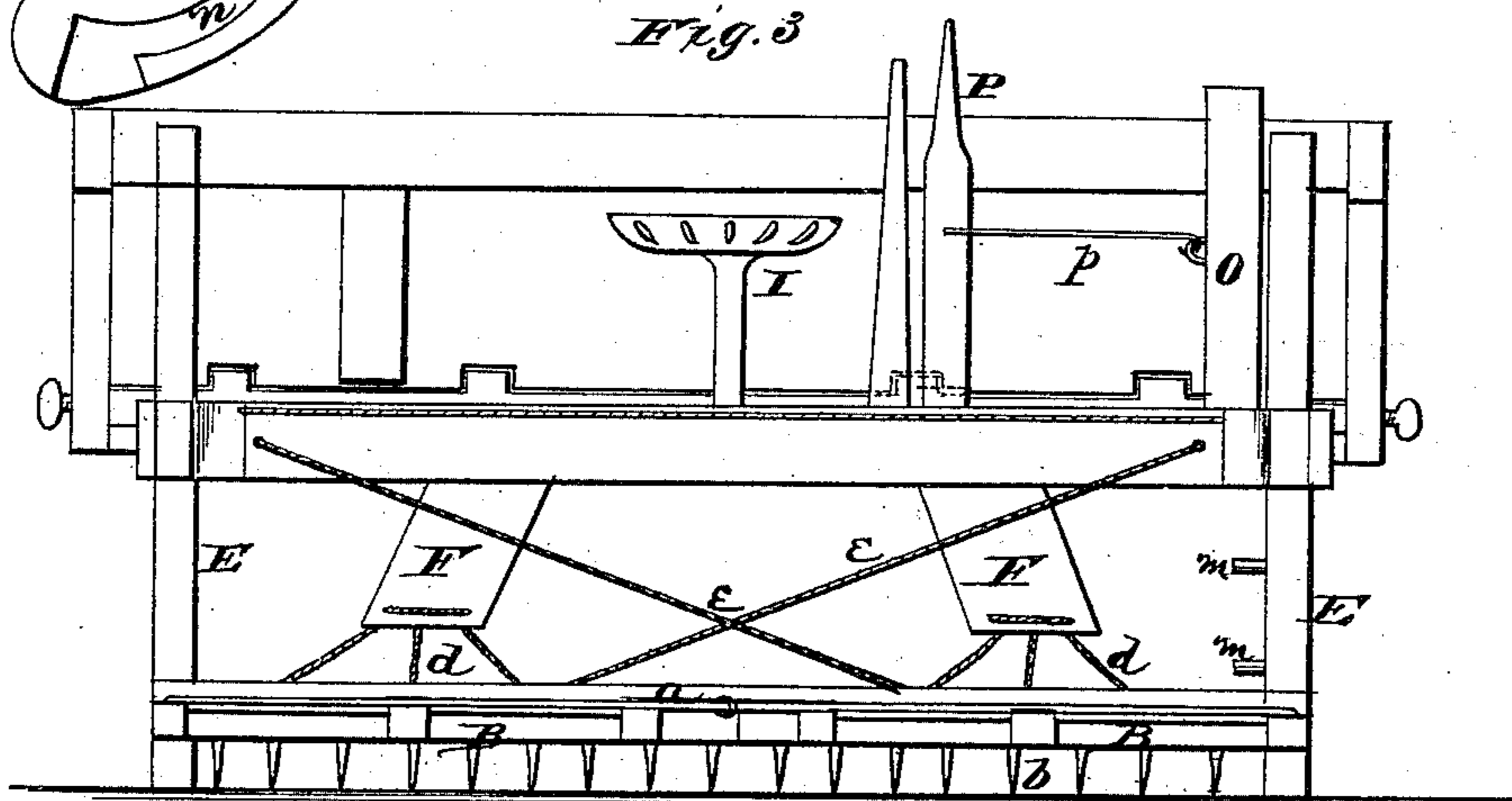


Fig. 3



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# UNITED STATES PATENT OFFICE.

JOHN S. FOSTER, OF HUDSON, MICHIGAN.

## IMPROVEMENT IN WHEELED HARROW AND SEEDING-MACHINE COMBINED.

Specification forming part of Letters Patent No. 207,025, dated August 13, 1878; application filed July 10, 1878.

*To all whom it may concern:*

Be it known that I, JOHN S. FOSTER, of Hudson, in the county of Lenawee, and in the State of Michigan, have invented certain new and useful Improvements in Wheeled Harrow and Seeding-Machine Combined; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a harrow with seed-planter attachment, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view of my machine. Fig. 2 is a longitudinal section, and Fig. 3 a rear elevation, of the same. Fig. 4 is a detailed view of a part thereof.

My harrow is made in three sections, A and B B. The side sections B B are made in triangular form, and separated by the center section A. The front end of the center section is fastened to a cross-bar, C, and the front ends of the side sections are hinged to the under side of said bar. The rear ends of the two side sections B B are hinged together by means of rods *a a*, as shown. When thus constructed it is a field or follow harrow, and by removing the center section it is a double corn-harrow.

The teeth *b* of the harrow are set on the inclined frame, so as to clear themselves of all trash.

The harrow is suspended under a sulky-frame, D, and so arranged that the side sections of the harrow will extend in rear of and beyond the outer sides of the wheels E E, so that by that means the wheel-tracks will be entirely obliterated.

Each side section B of the harrow is, by ropes or chains *d d*, connected to an arm, F, projecting from a roller, G, which has bearings on the frame E, and is provided with a lever, H, as shown. The side harrows are also, by ropes or chains *e e*, connected with the rear portion of the sulky-frame, said ropes or chains *e* crossing each other.

The driver seated on the seat I can, by means of the lever H, instantly raise the harrows to pass obstructions, to turn at the end of the field, or for other purposes, and the harrows can be held suspended by providing a catch to hold the lever H down.

On the front portion of the frame E is secured an elongated hopper or seed-box, J, divided by means of wedge-shaped partitions *f* into a series of pockets or chambers. In the bottom of the box J is a single slide, L, provided with two series of dropping-holes, *x*, the size of which is adjusted by means of smaller slides *i i*. The slide L is, by rods *h h*, connected with arms N N, projecting downward from a rocking bar, M, which has its bearings in bars attached to the sides of the seed-box and projecting in rear thereof.

To the rocking bar M, near one end, is hinged or pivoted an arm, O, which is formed with a cam-groove, *n*. This arm is by a rod, *p*, connected with a lever, P, by means of which it can be moved to or from the wheel E to throw the seeding mechanism in and out of gear. When moved close to said wheel, pins *m* in the wheel come, in succession, into the groove *n*, so as to move the arm O a certain distance up and down, thereby giving the rocking motion to the bar M and imparting the necessary motion to the slide L.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the stationary center harrow-section A, cross-bar C, the triangular side sections B B, flexibly connected to the cross-bar C, and connected together by the hinged rods *a a*, the suspending-chains *d e*, and the rock-shaft G with arms F and lever H, all constructed substantially as and for the purposes herein set forth.

2. The combination of the seed-slide L, rods *h*, rocking-bar M, with arms N N, the arm O, with cam-groove *n*, and the pins *m* in the wheel E, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 13th day of June, 1878.

JOHN S. FOSTER. [L. S.]

Witnesses:

M. B. PERKINS,

G. B. WOODWORTH.