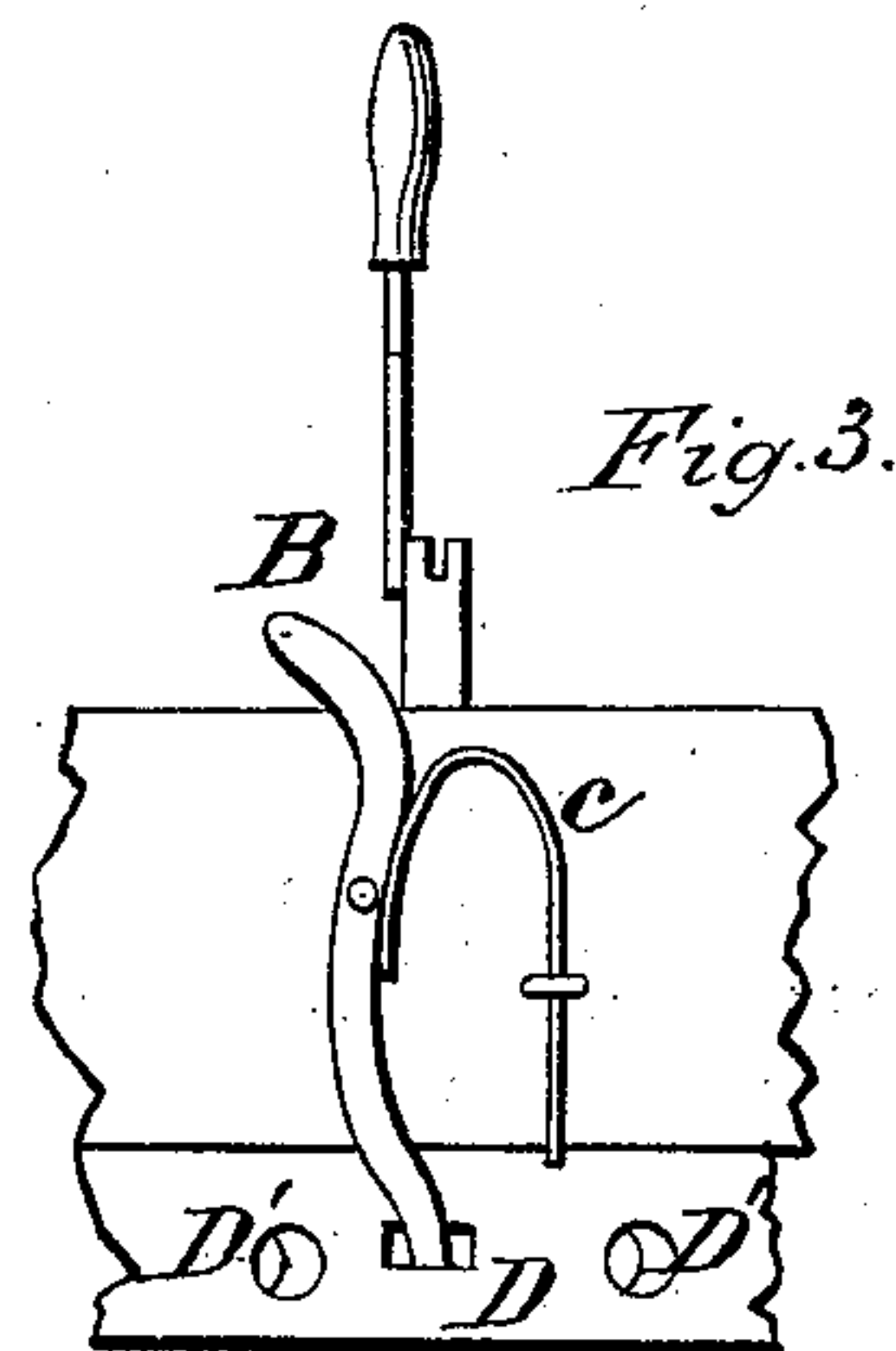
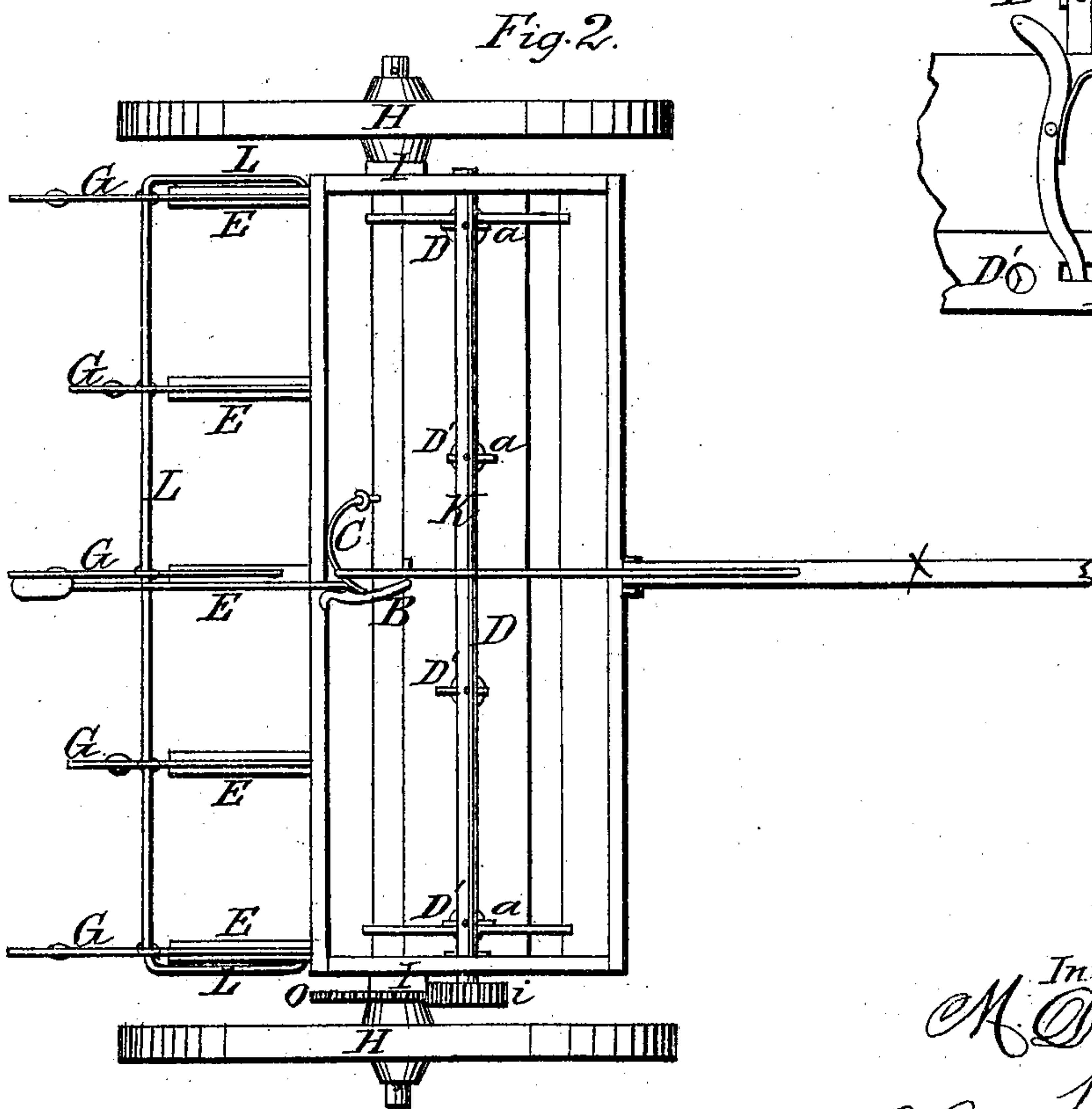
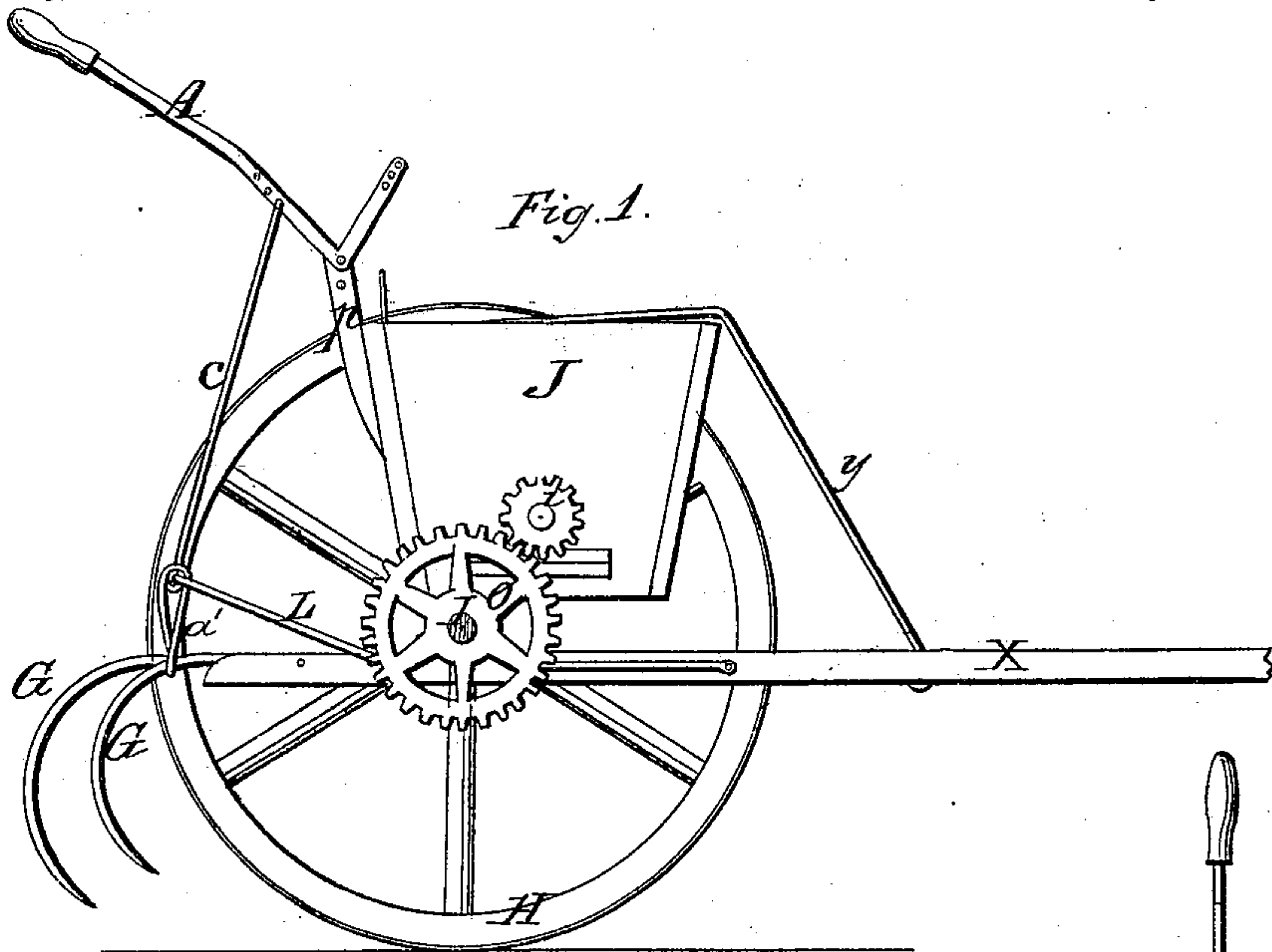


M. D. Smith.

Grain Drill.

N^o 86,950.

Patented Feb. 16, 1869.



Witnesses
J. W. Mister.
A. S. Worth.

Inventor.
M. D. Smith
per
J. H. Alexander
Atty.

United States Patent Office.

MATTHEW D. SMITH, OF INDEPENDENCE, IOWA.

Letters Patent No. 86,950, dated February 16, 1869.

IMPROVEMENT IN COMBINED SEEDING-MACHINE 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, MATTHEW D. SMITH, of Independence, in the county of Buchanan, and State of Iowa, have invented certain new and useful Improvements in Seeder and Cultivator combined; and I 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, which form a part of this specification, and in which—

Figure 1 represents a side view, with one wheel removed, and

Figure 2, a plan view of my seeder and cultivator. Similar letters indicate like parts in each figure.

My invention relates to certain improvements in seeders and cultivators, the peculiarities of which will hereinafter be fully described.

In the accompanying drawings—

H H represent the wheels, and

I, the axle-tree, to the upper side of which is attached the seed-box, or hopper J, which is provided with the agitator-bar K and distributors *a a a*.

At one end of the agitator-bar K is secured the pinion *i*, which works into the gear-wheel *o*, attached to the hub of the wheel H, for the purpose of giving a rotary motion to the agitator K and its distributors *a a*, when the machine is in operation.

The hopper J is also provided with a slide, D, in its bottom, made with holes or seed-cells, D', sliding over corresponding seed-cells, *d*, formed in the bottom of the hopper, the object of which will hereinafter be fully set forth.

E E are blocks, slotted at one end, and the other end secured to the under side of the axle-tree I.

G G G, the cultivator-bars, are bent in the shape seen in fig. 1, and pivoted to the slotted blocks E E, by means of wooden pins, so that when the cultivator-bars come in contact with an obstruction, the pins break, thereby avoiding injury to the cultivator-bars.

The rod L is bent at right angles at each end, and pivoted to the outer blocks E E.

This rod is connected with the cultivator-bars G G G by metal straps or links, *a' a' a'*, and both connected with the lever A, by means of the bar *c*.

The lever A is bent at a right angle at its lower end, and pivoted at its vertex to the block *p*, which is secured to the rear side of the hopper J.

The spring C is secured to the inside of the hopper J, and in connection with the lever B, which is pivoted at its centre to the rear side of the hopper and its lower end attached to the slide D, its upper, end forming a curve projecting above the hopper, for the purpose of opening and closing the seed-cells *d'*, when the lever A is acted upon.

Having thus fully described my invention,

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

The spring C, in combination with the levers A and B, and slide D, substantially as set forth.

In testimony that I claim the foregoing as my own, I affix my signature, in presence of two witnesses.

Witnesses: MATTHEW D. SMITH.
JOHN HOLLETT,
S. E. SMITH.