

J. B. CLEMANS.

Grain Drill.

No. 99,536.

Patented Feb. 8, 1870.

Fig. 1

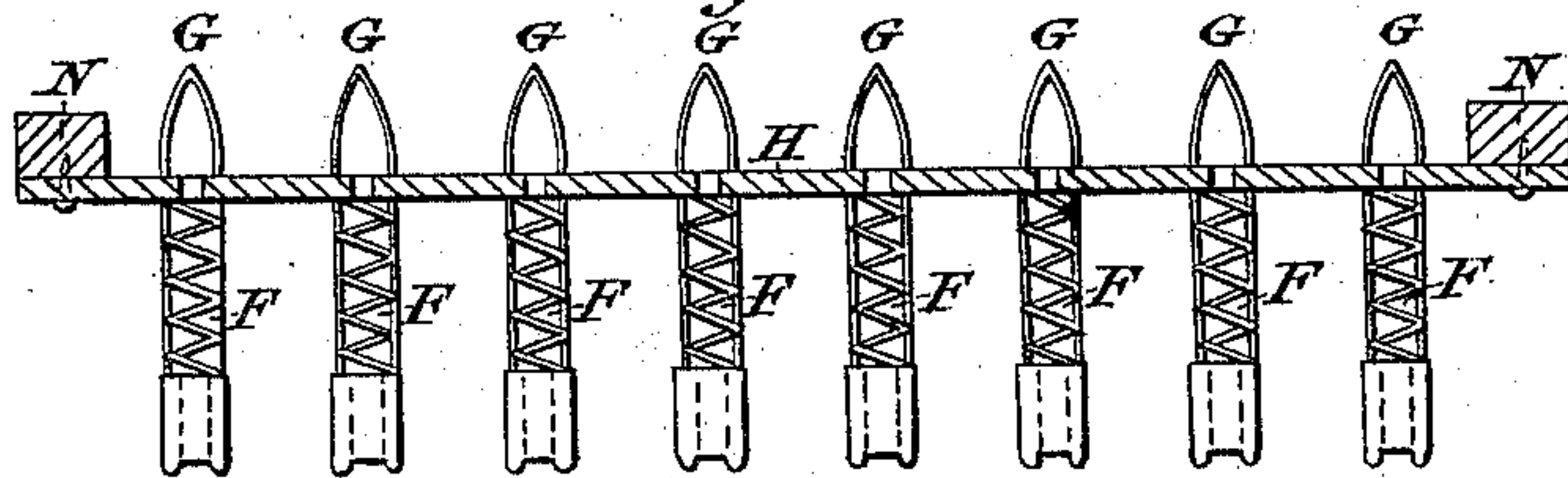


Fig. 2

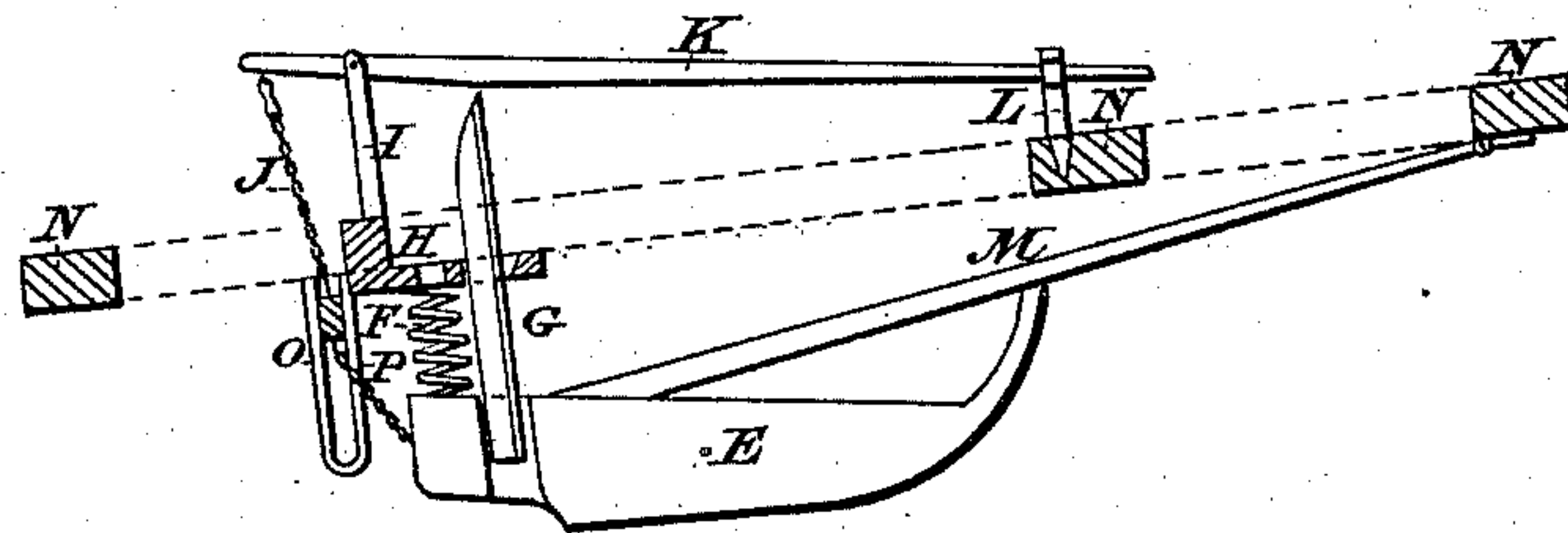
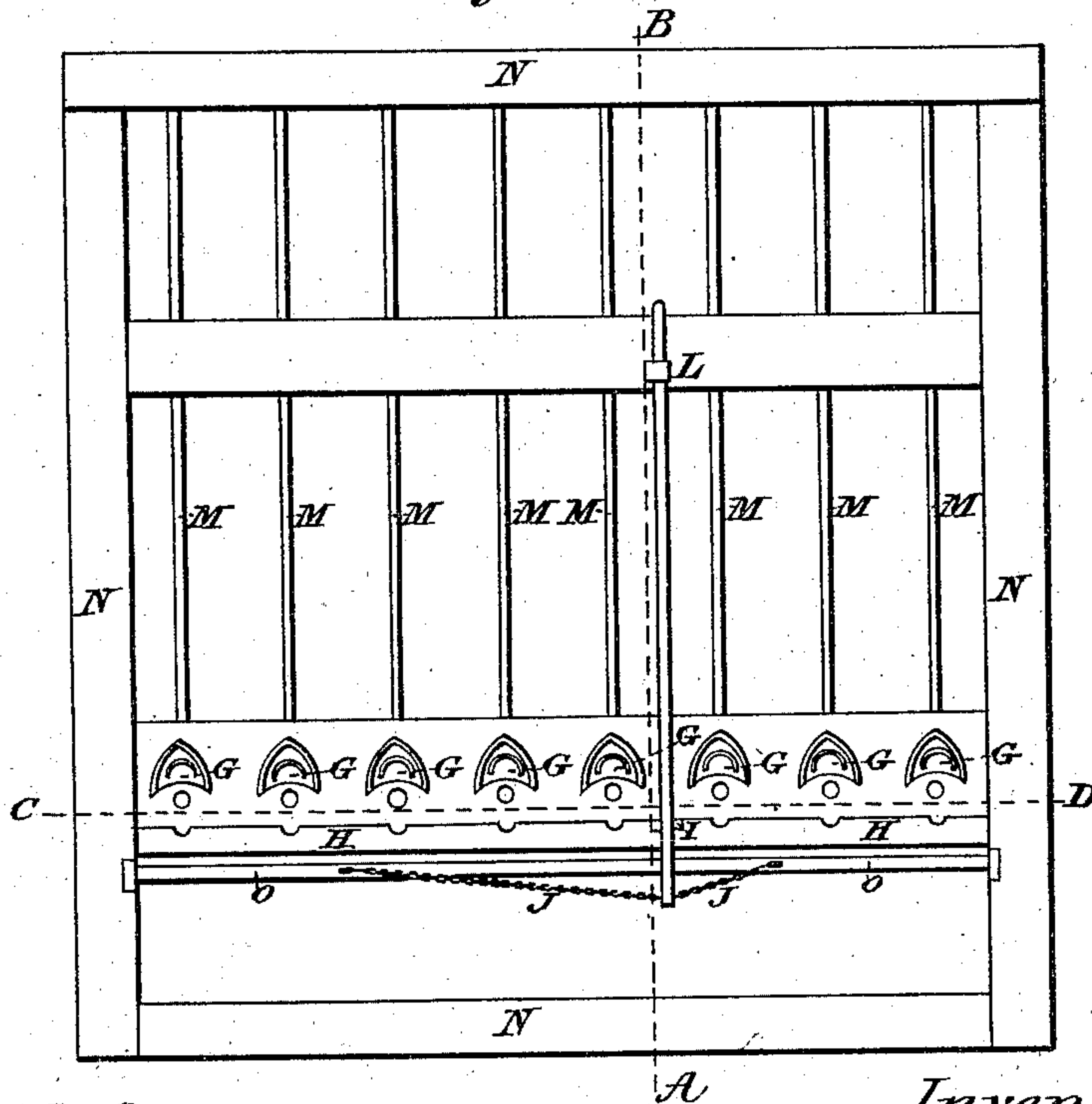


Fig. 3



Witnesses:

C. D. Alderson
J. H. Keagy.

Inventor:

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By Jas. A. Cowles,
his atty.

United States Patent Office.

JOSEPH B. CLEMANS, OF KANSAS, ILLINOIS.

Letters Patent No. 99,536, dated February 8, 1870.

IMPROVEMENT IN SEED-DRILLS.

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

To whom it may concern:

Be it known that I, JOSEPH B. CLEMANS, of Kansas, in the county of Edgar, and State of Illinois, have invented certain new and useful Improvements in Seed-Drills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters and figures marked thereon, forming a part of this specification.

The nature and object of my invention are to construct a seed-drill provided with runners, at the lower ends of the seed-tubes, so that when the drill is drawn over the ground, no obstructions will accumulate on the lower end of the seed-tubes.

Figure 1 is a view through the line C D, of fig. 3, showing the heels of the runners.

Figure 2 is a view through the line A B, of fig. 3, showing the position of the runners.

Figure 3 is a top view of the frame-work of the drill.

The drawings only represent the parts of the drill necessary to show my improvement.

Similar letters of reference refer to similar parts in the different drawings.

E, fig. 2, is a runner, attached to the drill by means of the tongue M, extending from the cross-bar N down to the runner E, as shown.

G is a seed-tube, extending from the seed-box down to the runner, and into it, at the heel, as shown.

F is a spring, placed above the heel of the runner, and extending up to the cross-beam H.

P is a connecting-chain, between the heel of each runner and the lifting-bar O.

K is a lever, working upon the fulcrum I, and connected to the lifting-bar O, by means of the chain J.

The operation of my invention is as follows:

The machine is drawn over the surface of the ground, and by so doing, the runners, made of steel, or any suitable material, and with a cutting-edge, make an opening in the soil, and the seed from the seed-box passes down the tube G, through the hole in the heel of the runner, and into this opening in the soil, when it is covered by the loose dirt falling back into this opening made by the runner.

The spring F, acting between the fixed point H and the runner E, presses the runner into the ground.

The runners are raised out of the ground by means of the lever K, and are held out of the ground by placing the end of the long arm of the lever under the hook L. There are as many of the runners as there are seed-tubes.

Having thus described my invention,

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

1. The combination and arrangement of the runner E, spring F, and seed-tube G, substantially as shown, and for the purpose described.

2. The combination and arrangement of the runner E, seed-tube G, spring F, chains P and J, lifting cross-bar O, and lever K, substantially as shown and described.

J. B. CLEMANS.

Witnesses:

WM. S. KESTE,
W. F. BOYER.