

(Model.)

D. G. MARTZ.
Seed Drill.

No. 237,197.

Patented Feb. 1, 1881.

Fig. 1.

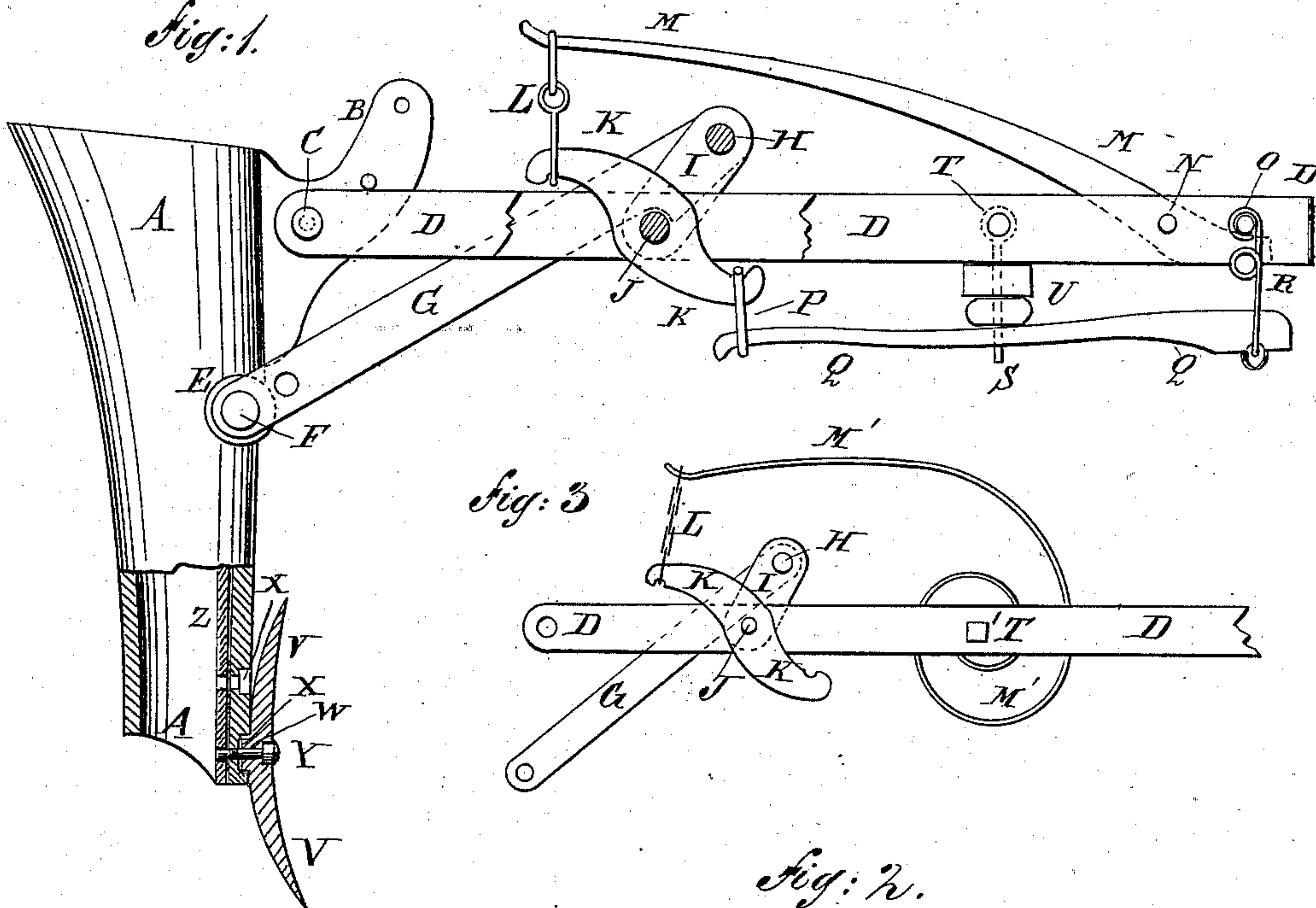


Fig. 3.

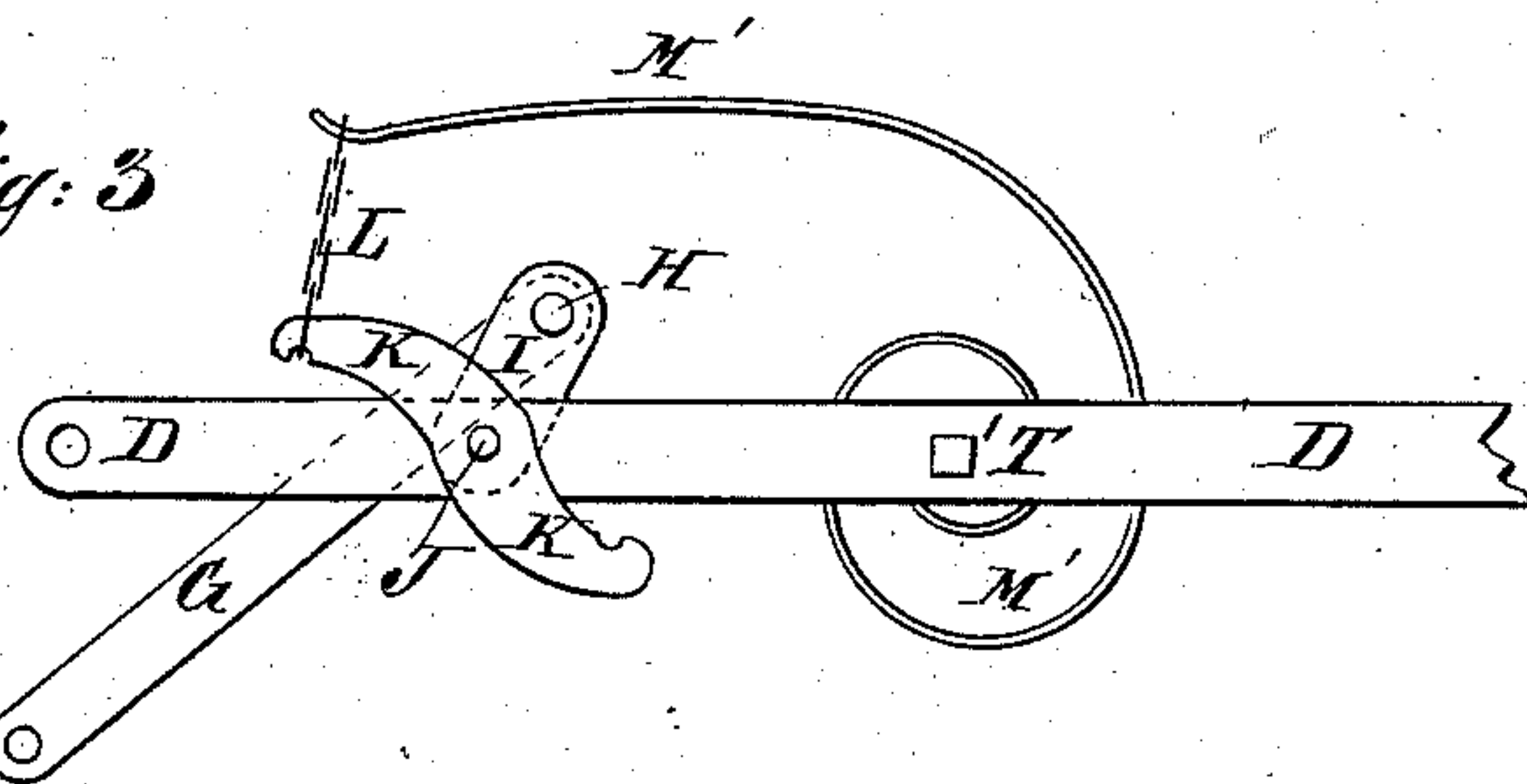


Fig. 2.

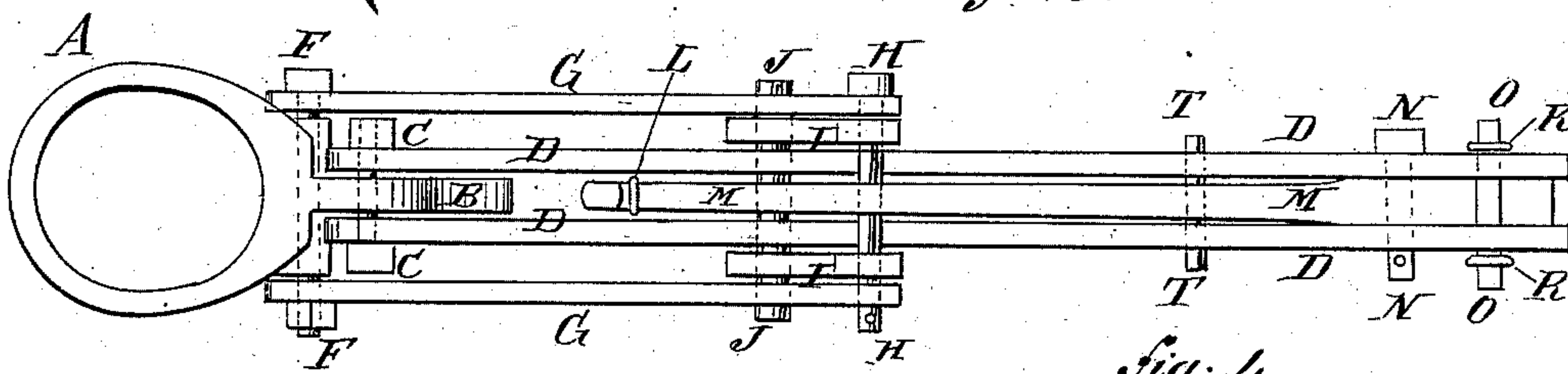


Fig. 4.

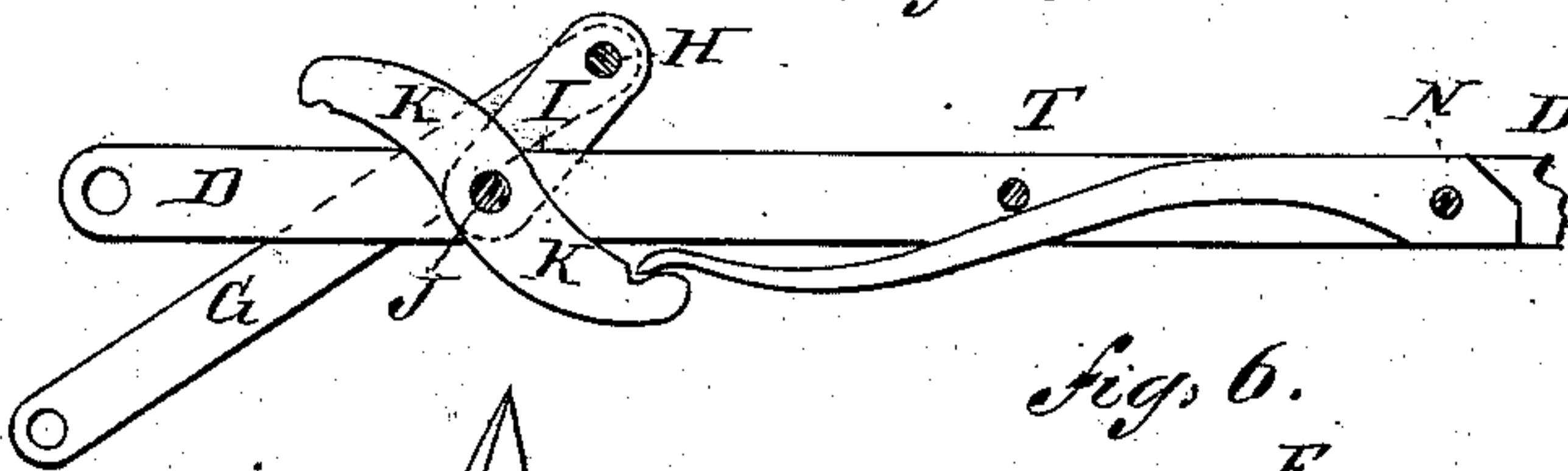


Fig. 6.

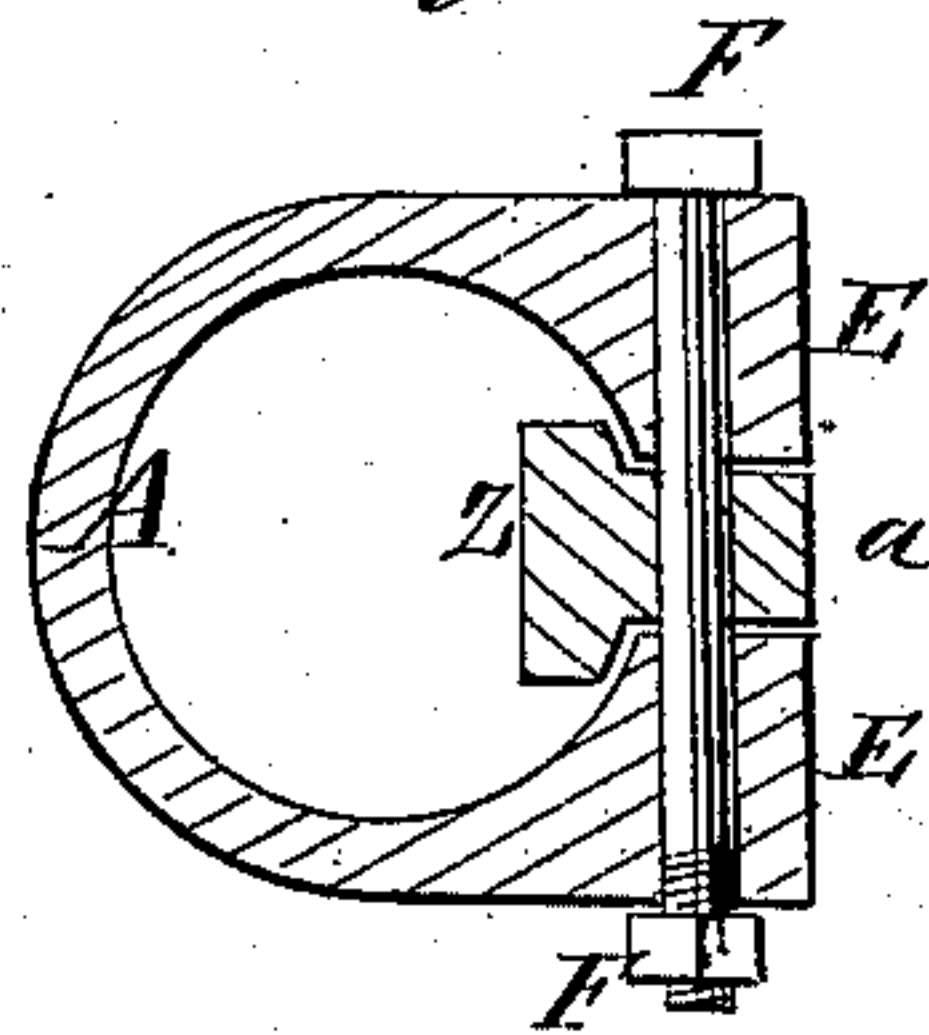


Fig. 7.

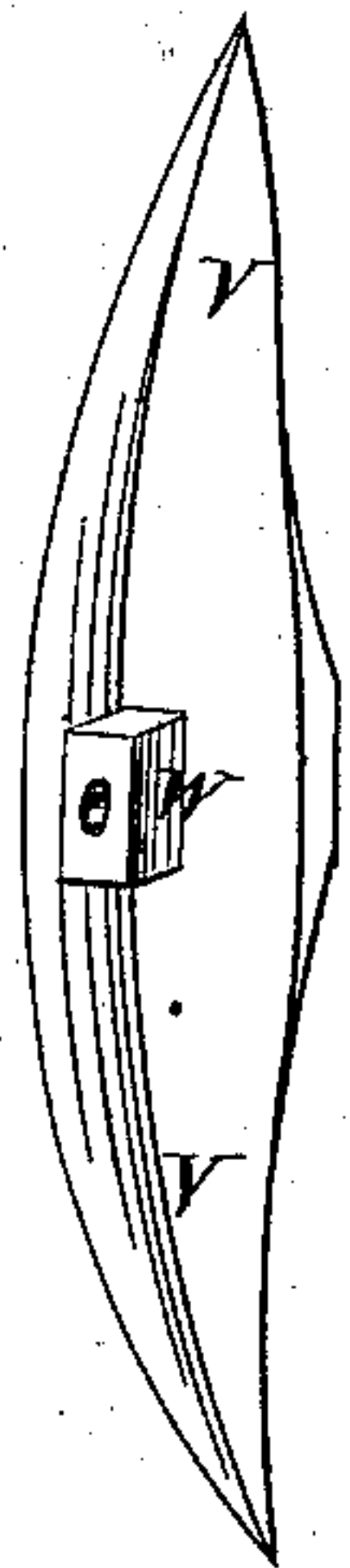
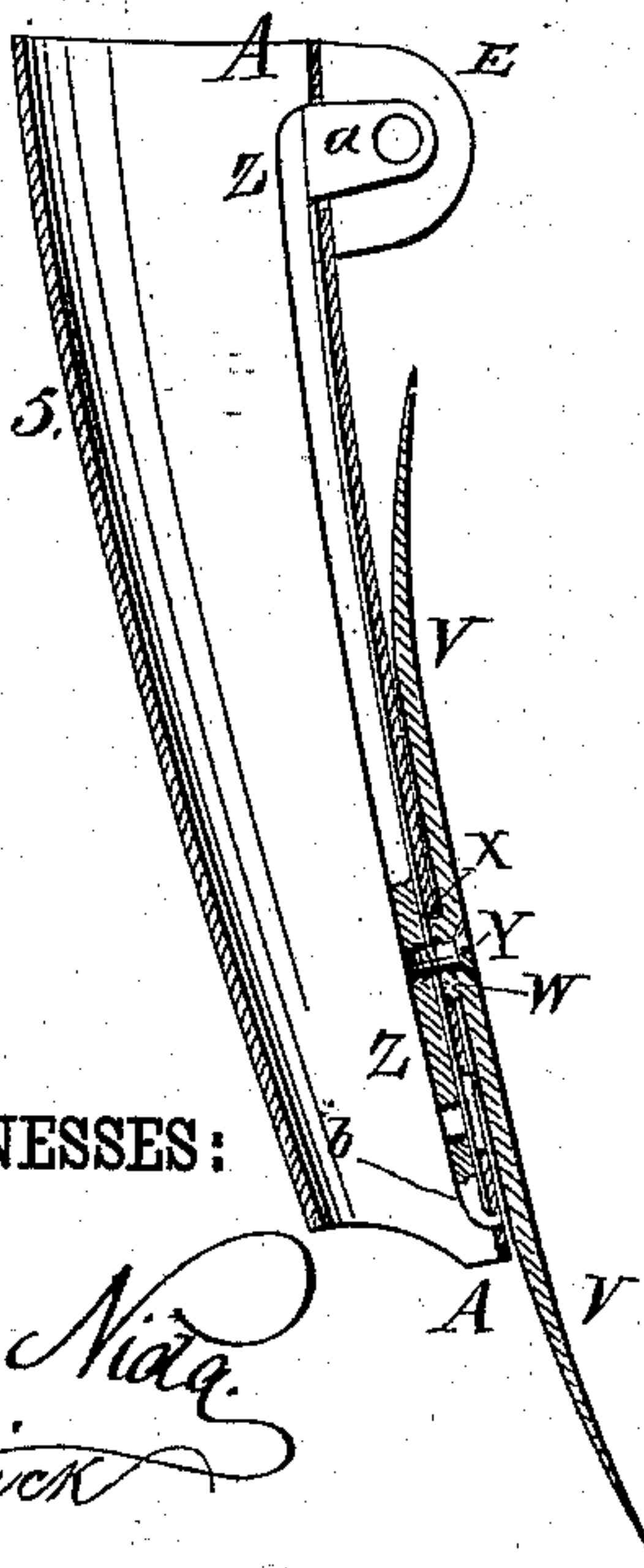


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DANIEL G. MARTZ, OF MAUZY, VIRGINIA.

SEED-DRILL.

SPECIFICATION forming part of Letters Patent No. 237,197, dated February 1, 1881.

Application filed November 1, 1880. (Model.)

To all whom it may concern:

Be it known that I, DANIEL GREENE MARTZ, of Mauzy, in the county of Rockingham and State of Virginia, have invented a new and useful Improvement in Seed-Drills, of which the following is a specification.

Figure 1 is a side elevation, partly in section, of the improvement. Fig. 2 is a plan view. Fig. 3 is a side elevation, showing a modified form of the spring. Fig. 4 is a side elevation, showing another modified form of the spring. Fig. 5 is a sectional side elevation of a part of the boot. Fig. 6 is a sectional plan view of the boot. Fig. 7 is a perspective view of the plow-shovel.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish seed-drills so constructed that the shovel will be held to its work under ordinary circumstances; but should the shovel strike an obstruction the boot will yield and swing back, and return to its place as soon as the obstruction has been passed, and which will allow the shovel to be reversed and to be moved down or up, as circumstances may require.

A represents the boot, foot, or hoe of a seed-drill. Upon the upper forward part of the boot A is formed an arm or lug, B, which has a hole formed through it to receive the bolt C. The bolt C also passes through holes in the rear ends of two drag-bars, D, which ends are placed upon the opposite sides of the arm B. Several holes are formed in the arm B, immediately above the drag-bars D, to receive a wooden pin, commonly called a "break-pin," to hold the boot A in place should the spring break or become disabled, which pin is designed to break should the boot A strike an obstruction.

Upon the forward side of the boot A, at or a little above its middle part, are formed lugs E, to receive the bolt F, which also passes through the rear ends of two bars, G, placed upon the opposite sides of the boot A. Several holes are formed in the rear parts of the bars G to receive the bolt F, so that the boot A can be adjusted as the character of the soil may require. The bars G pass up in an inclined direction across the drag-bars D, and are pivoted at their upper ends by a pin, bolt,

or rod, H, to the outer sides of the upper ends of two short bars, I. The lower ends of the bars I are placed upon the outer sides of the drag-bars D, and to the said lower ends are attached the ends of a pin, rod, or bolt, J, which passes through and works in a hole in the said drag-bars D.

To the middle part of the pin J, between the drag-bars D, is rigidly attached the middle part of a lever, K. With one end of the lever K is connected, by a link-connection, L, the end of a spring, M. The other or forward end of the spring M is placed between the forward parts of the drag-bars D, and is secured in place by a pin, N, passing through it and through the said drag-bars D. The forward end of the spring M passes beneath and rests against a pin, O, also passed through the drag-bars D. With this construction the tension of the spring M can be regulated by adjusting the forward end of the said spring higher or lower, which may be done by interposing bearing-blocks between the end of the spring M and the pin O, or by other suitable means. With the other end of the lever K is connected, by a link-connection, P, the end of a spring, Q, the other end of which is connected with the pin O by a link or loop connection, R. The middle part of the spring O has a hole formed through it to receive the pin S, the upper end of which has an eye formed through it to receive a pin, T, passed through holes in the middle parts of the drag-bars D. Upon the pin S is placed a rubber spring, U, interposed between the middle part of the spring Q and the drag-bars D, to support the pressure upon the spring Q and give an increased elasticity to the said spring Q.

If desired, the rubber spring U may be replaced by an equivalent spiral metallic spring.

The spring M may be made in the form of a scroll-spring, M', as illustrated in Fig. 3, the inner end of the said spring M' being secured to a pin, T, attached to the drag-bars D.

The spring Q can be used without the reinforcing spring U, and without the link-connections R P, by securing its forward end to and between the drag-bars D by the pin N, allowing its middle part to rest against the pin T as a fulcrum, and placing its rear end upon the end of the lever K, as illustrated in Fig. 4.

Both the springs M Q can be used at the same time, or either can be used without the other, as circumstances may require.

5 V is the shovel, which is made with a working-point at each end, so that when one point becomes worn the shovel can be reversed and the other point used.

10 Upon the rear side of the center of the shovel V is formed or to it is rigidly attached a square or right-angled projection, W, which fits into a similarly-shaped recess or socket, X, in the forward side of the lower part of the boot A, to prevent the shovel V from turning upon its fastening-bolt Y. The bolt Y passes through
15 the center of the shovel V, the center of the projection W, and the center of the socket X. Two or more sockets, X, are formed in the forward side of the lower part of the boot A to receive the projection W, so that the shovel V
20 can be moved down or up, to cause it to work deeper or shallower in the ground.

When the lower forward part of the boot A is sufficiently thick, a screw-hole for the bolt Y may be formed in it in the rear of the center
25 of the recess or socket X. When the forward part of the boot A is too thin to give the bolt Y a sufficient bearing, a bar, Z, is placed in

the forward part of the cavity of the boot A, and as many screw-holes are formed in it as there are sockets X in the boot A, and in such
30 positions as to receive the fastening-bolt Y.

Upon the upper end of the nut-bar Z is formed a forwardly-projecting lug, *a*, which passes out through an aperture in the forward side of the boot A, between the lugs E, so that
35 the bolt F can pass through it and thus hold the said nut-bar Z in place. The lower end of the nut-bar Z is kept from lateral movement by a forwardly-projecting point, *b*, formed upon it, and which enters a hole in the lower forward part of the boot A.
40

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

In a seed-drill, the combination, with the
45 boot A and the bolt Y, that secures the shovel V in place, of the nut-bar Z, having lug *a* and point *b*, substantially as herein shown and described, to form a bearing for the screw-threads of the said bolt, as set forth.

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Witnesses:

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