

(No Model.)

3 Sheets—Sheet 1

J. D. MADDEN.

POTATO PLANTER.

No. 316,279.

Patented Apr. 21, 1885.

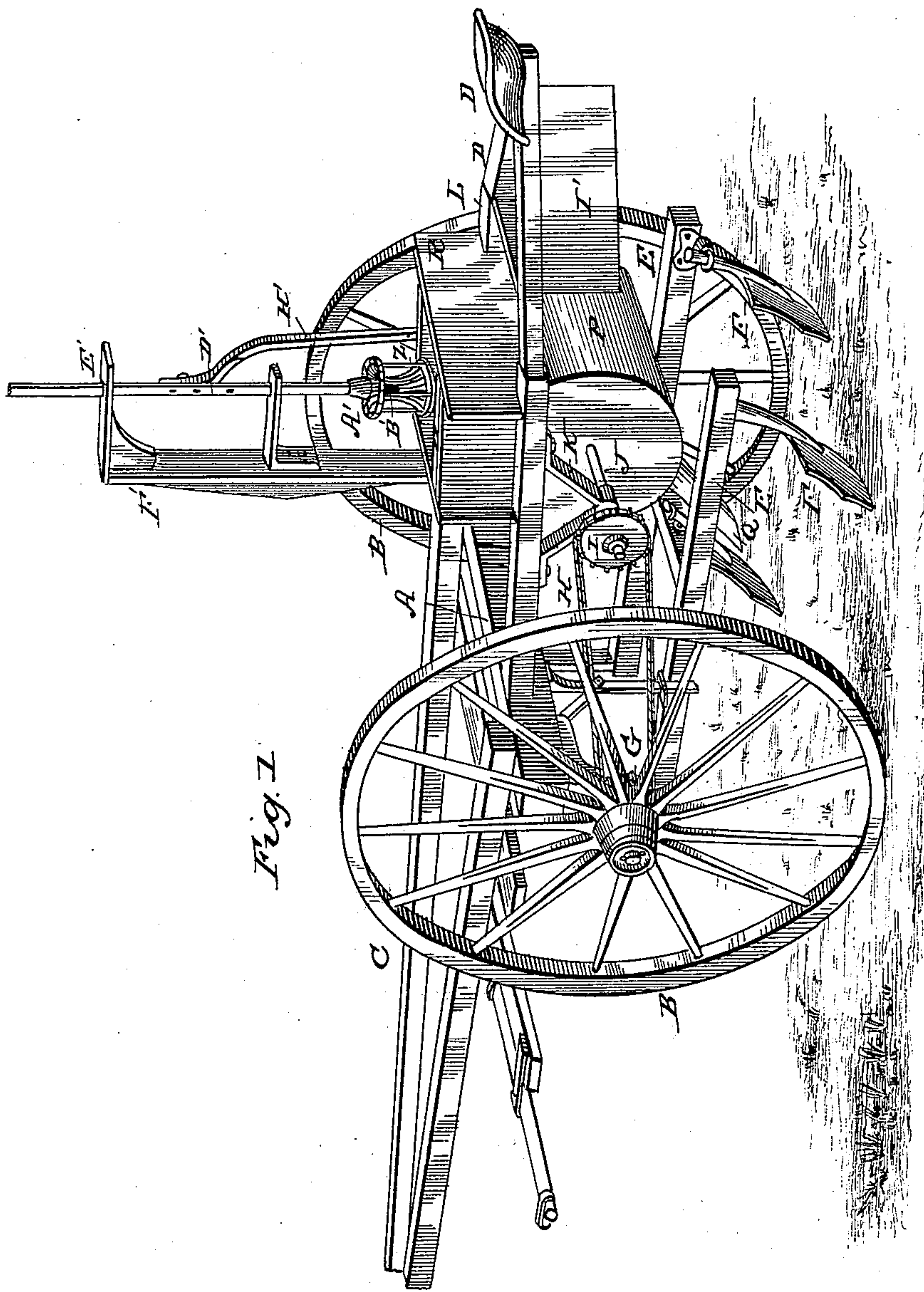


Fig. 1

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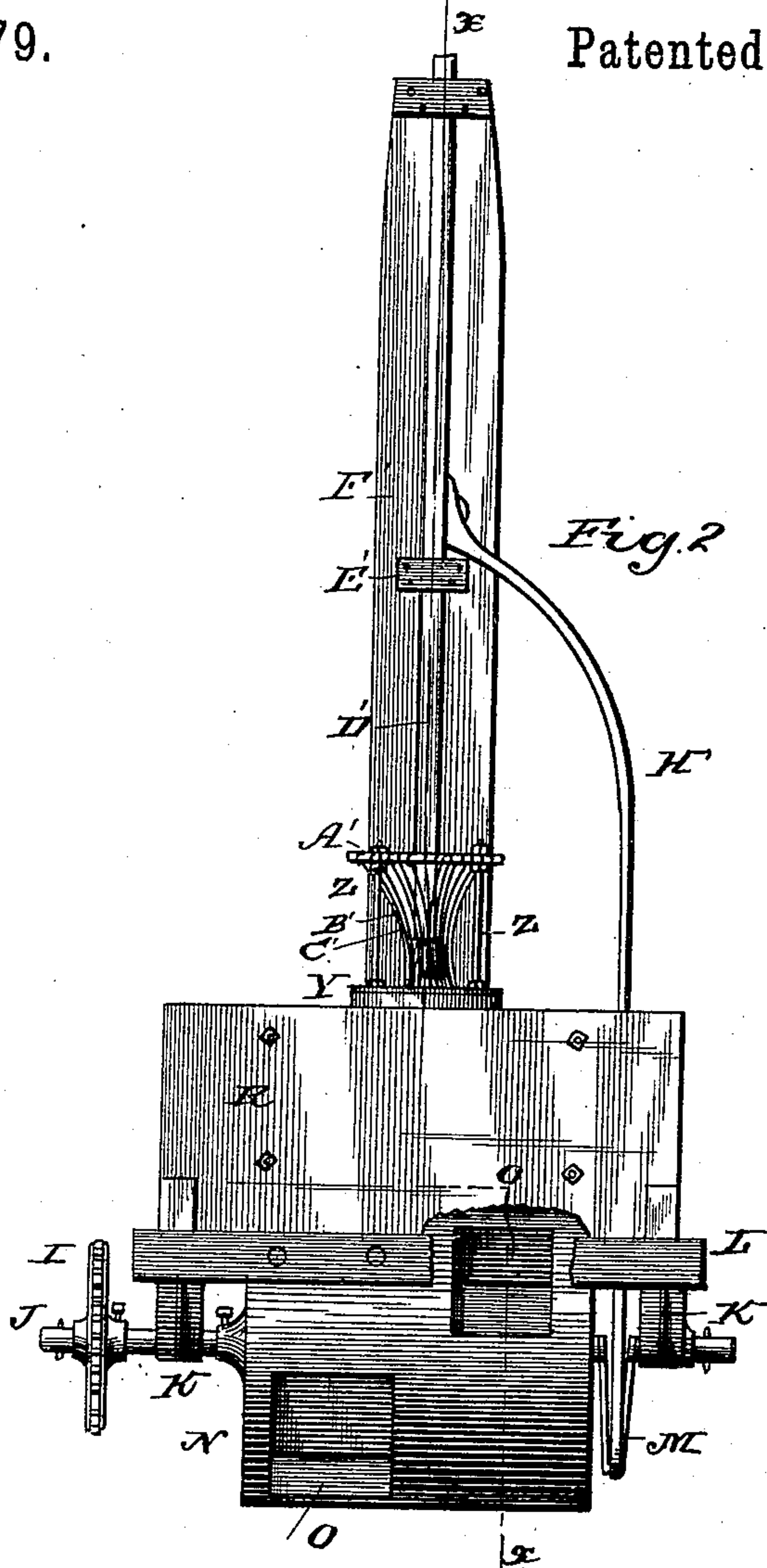
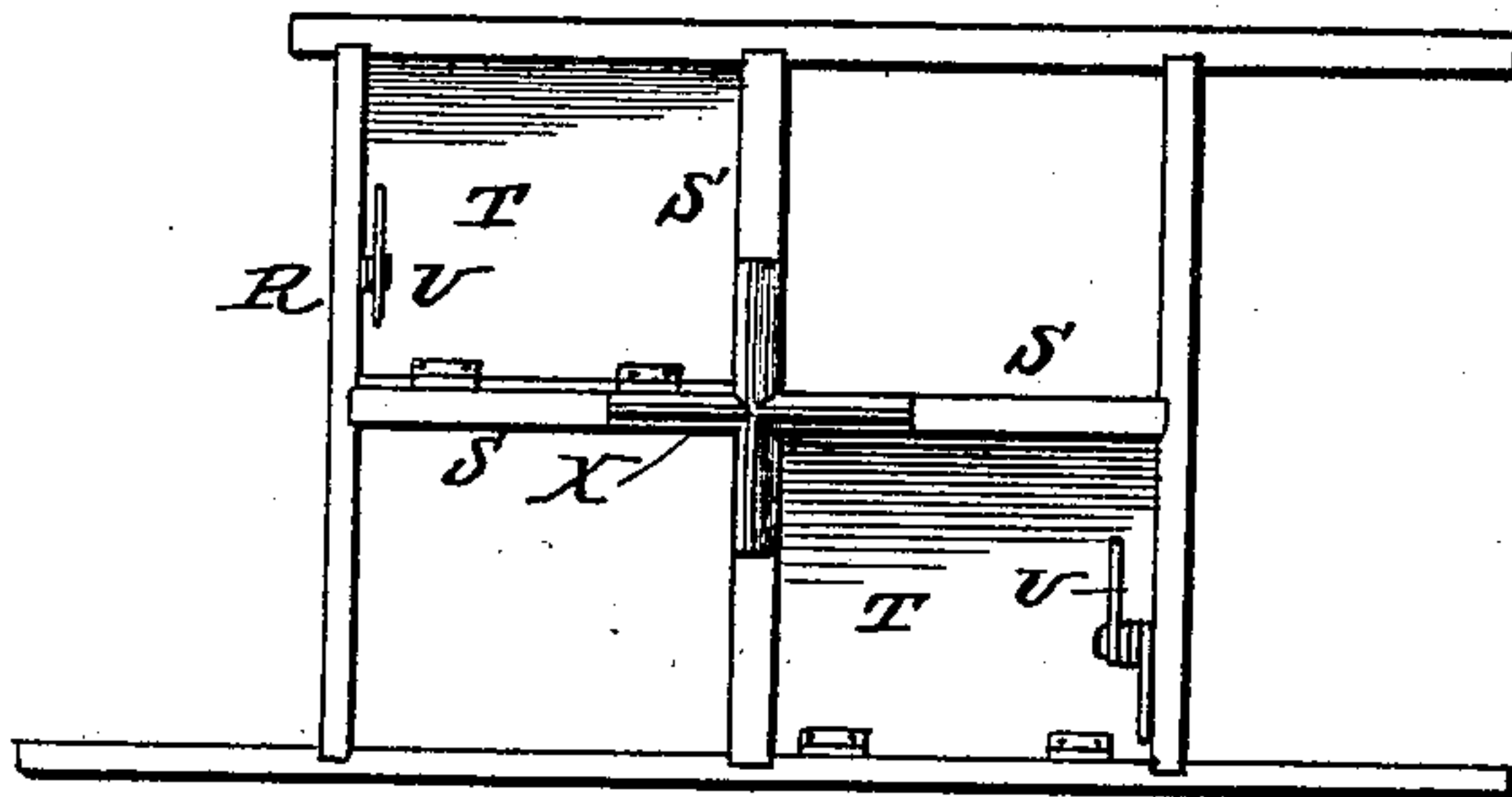


Fig. 4



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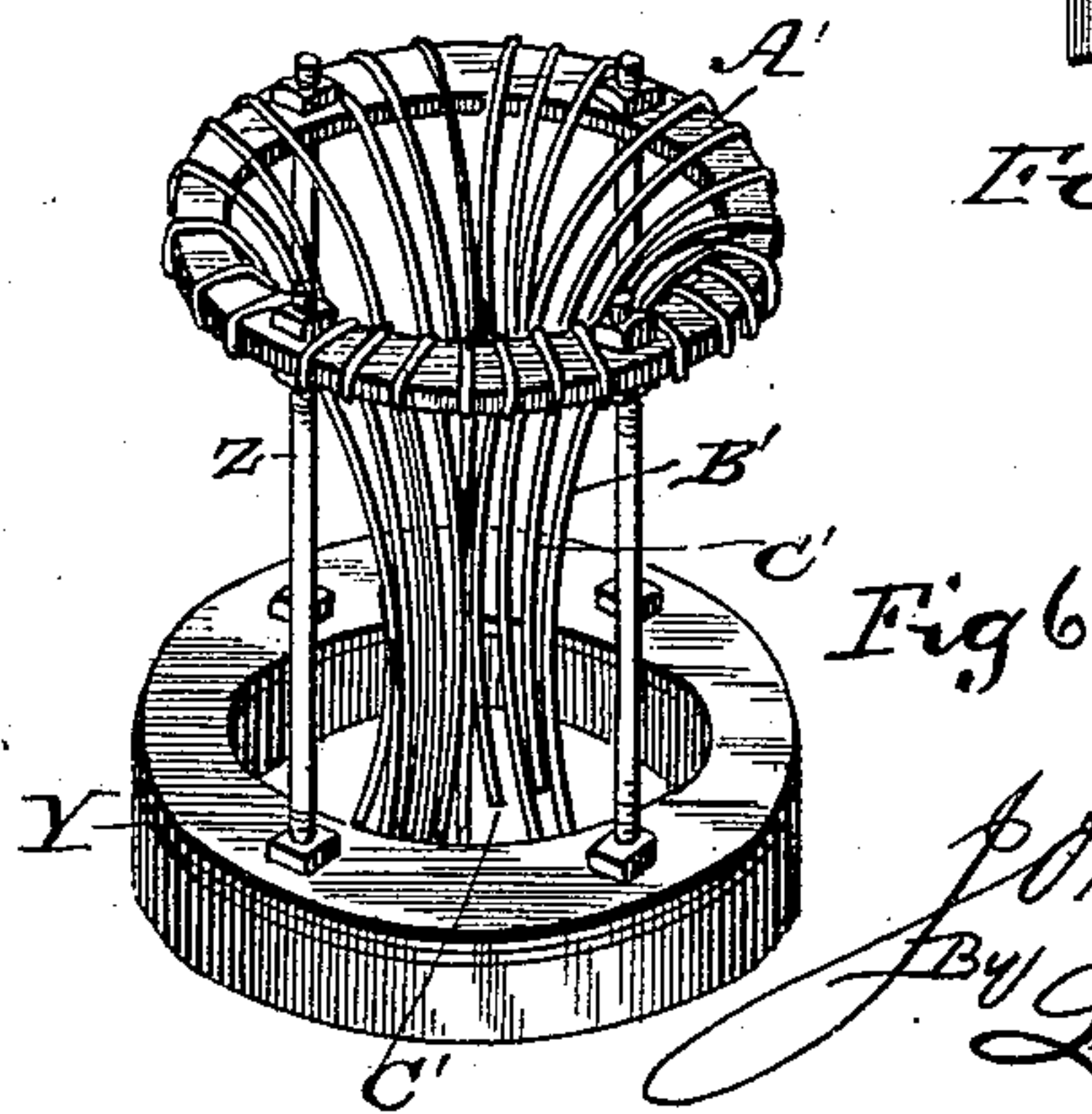
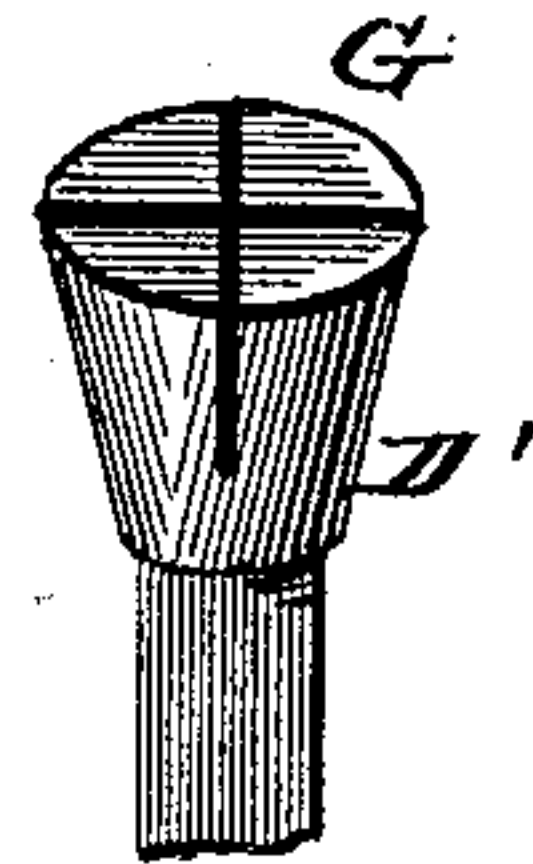
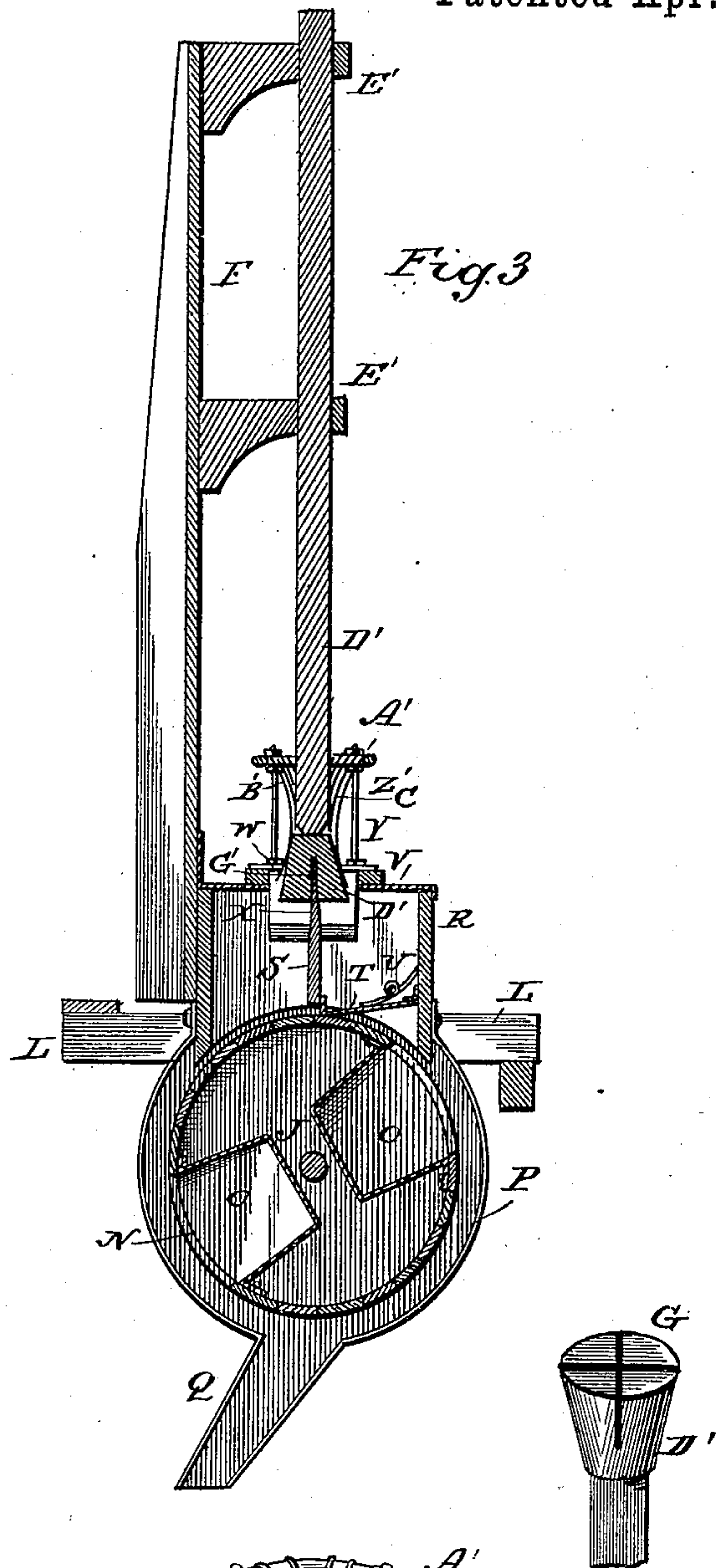
3 Sheets—Sheet 3.

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No. 316,279.

Patented Apr. 21, 1885



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN D. MADDEN, OF ROCHESTER, MINNESOTA, ASSIGNOR TO MARTIN F. MADDEN, OF SAME PLACE.

POTATO-PLANTER.

SPECIFICATION forming part of Letters Patent No. 316,279, dated April 21, 1885.

Application filed December 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. MADDEN, of Rochester, in the county of Olmsted and State of Minnesota, have invented certain new and useful Improvements in Potato-Planters; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of a cultivator-frame provided with my improved potato-planter attachment. Fig. 2 is a rear view of the attachment. Fig. 3 is a vertical section on line *xx*, Fig. 2. Fig. 4 is a top view of the divided hopper, and Fig. 6 is a perspective detail view of the potato-holder.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to potato-planting attachments adapted to be attached to cultivator-frames or other suitable wheeled frames; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the axle of a cultivator, having wheels B, tongue C, seed-supports and seat D, and beams E E, provided with preferably three cultivator-shovels, F, arranged as shown in the drawings, one in the middle acting as furrow-opener, and two to the sides and rear of the middle shovel, which two shovels act as coverers after the potatoes have been dropped. All these parts may be of any suitable construction, forming either parts of a common wheel-cultivator or of a frame made expressly for the attachment.

One of the wheels is provided at its hub with a sprocket-wheel, G, over which passes a sprocket-chain, H, which passes over another sprocket-wheel, I, secured upon a shaft, J, journaled in bearings at the lower ends of two hangers, K K, secured to a frame, L, supported over the cultivator-beams. The shaft is provided inside one of the hangers with a double crank, M, and a drum, N, is secured upon the

shaft, between the other hanger and the crank, and the surface of this drum is provided with four (more or less) recesses or pockets, O, rectangular in shape, of a width equal to nearly one-half of the length of the drum, alternating on both sides of the middle of the drum, arranged around the surface of the drum at a distance from each other corresponding to the distance desired to be between each hill of potatoes, and being of slightly different width, one of the pockets at each half of the drum being slightly wider than the other.

The drum is incased in a sheet-metal casing, P, the under side of which is formed with a discharge-spout, Q, which projects down behind the middle or opening shovel, or, if desired, forms the furrow-opener, dispensing with the middle shovel, and the upper portion of the drum is covered by and fits into the cylindro-concavely recessed lower end of the hopper R, said recessed lower end fitting over and corresponding in shape to the upper portion of the drum. This hopper is divided lengthwise and transversely into four compartments by means of partitions S, crossing each other at the center of the hopper, and the lower rear edges of the sides of two of the compartments are provided with hinged gates T, swinging downward, having springs U forcing them downward, and being of a sufficient width to prevent their being forced down into the narrower pockets in the drum, while they may swing down into the wider pockets, one of these gates being provided for one compartment at each side of the middle partition.

The top of the hopper is provided with a cover, V, having a circular central aperture, W, and a cross-shaped cutter, X, is secured with its four blades upon the upper edges of the partitions, projecting up through the central aperture, which aperture is surrounded by a ring, Y, from which a number of upright rods, Z, project, the upper ends of which rods are connected by another ring, A'.

A number of alternating long and short springs, B' and C', are secured at their upper ends to the upper ring, A', whereupon they are wrapped around the ring to render them yielding, forming spirals, and the lower ends

of the springs, which are formed from pieces of spring-wire, are slightly curved, and converge toward the center of the cutter, the long springs projecting nearly down to the said cutter.

A plunger, D', slides in vertical bearings E', projecting from an upright, F', secured upon one side of the hopper, and the lower end of the plunger has two deep grooves, G', crossing each other at right angles and fitting over the blades of the cutter, centering upon the same, and a curved pitman, H', is pivoted at its upper end to the upper portion of the plunger, while its lower end is pivoted to the double crank.

A box, I', is secured upon the seat-supports or in any other suitable manner near the seat of the supporting-frame, and it will now be seen that when the machine is drawn forward and the sprocket-wheel upon the drum-shaft is brought to revolve with the said shaft, the said wheel having means for allowing it to revolve loose upon the shaft, or to revolve the shaft, the crank upon the drum-shaft will reciprocate the plunger once for each revolution of the drum-shaft, and the said plunger will force a potato, which is placed by hand between the curved springs, down against the cutter, which will cut the potato in four parts, each of which falls into one of the hoppers. As now the drum revolves the quarters of potato which fall into the compartments having no gates will fall into the narrow pockets, these pockets preceding the wider pockets, and the quarters of potato which fall into the compartments having gates will drop into the wider pockets, all the pockets carrying the pieces of potato along with them and dropping them successively into the furrow through the spout, whereupon the two covering-shovels will cover the potatoes, all the attention necessary for the operation of the machine being to drive the machine along a row and to drop a potato between the potato-holding springs at each revolution of the drum.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The potato-holding receptacle, consisting of a ring supported upon upright rods and long and short pieces of spring-wire alternating with each other, wound in spirals around the ring and secured to the same at their upper

ends, and having their lower ends converging toward the center of the receptacle, in combination with a plunger reciprocating with its lower end into the receptacle, and with a cutter placed at the lower end of the receptacle, as and for the purpose shown and set forth.

2. The combination, in a potato-planting attachment, of a revolving drum having pockets alternating at both sides of its middle and alternating in width, as described, a hopper fitting over the upper portion of the drum, and divided by means of a lengthwise and a transverse partition into four compartments, two of which compartments, diagonally opposite to each other, are provided with hinged gates at their lower ends, as described, and means, substantially as described, for quartering the potatoes and dropping the quarters into the compartments, as and for the purpose shown and set forth.

3. The combination of a cultivator-frame having a sprocket-wheel upon the hub of one wheel, and having a central opening-shovel in front and two covering-shovels at the rear, with a potato-planting attachment, consisting of a drum having four pockets, alternating upon each side of the middle of the drum and alternating in width and secured upon a shaft revolved by a sprocket-chain from the sprocket-wheel upon the cultivator-wheel, and having a double crank at one end, a hopper divided lengthwise and transversely into four compartments fitting over the upper portion of the drum, and having two downwardly-swinging gates for two diagonally-opposite compartments swinging into the wider pockets of the drum, a cross-shaped cutter secured upon the meeting ends of the upper edges of the partitions of the hopper, a potato-holding receptacle secured above and around the cutter, a reciprocating plunger having two grooves at its lower end crossing each other at right angles, and a curved pitman pivoted to the plunger and to the double crank upon the drum-shaft, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN D. MADDEN.

Witnesses:

H. M. NOWELL,

H. N. CHADBOURN.