

(No Model.)

J. WEBSTER.

DITCHER.

No. 310,001.

Patented Dec. 30, 1884.

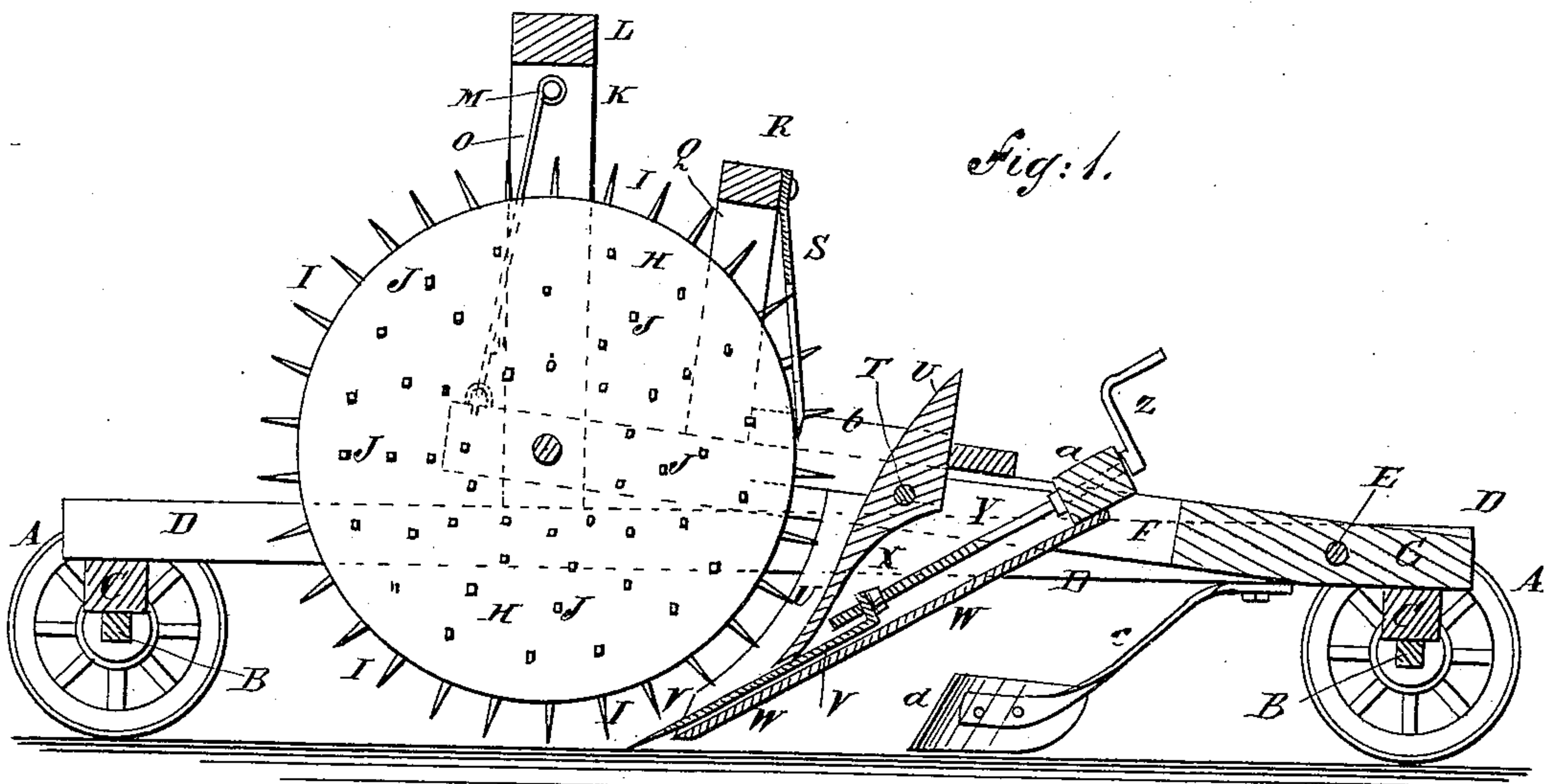


Fig. 1.

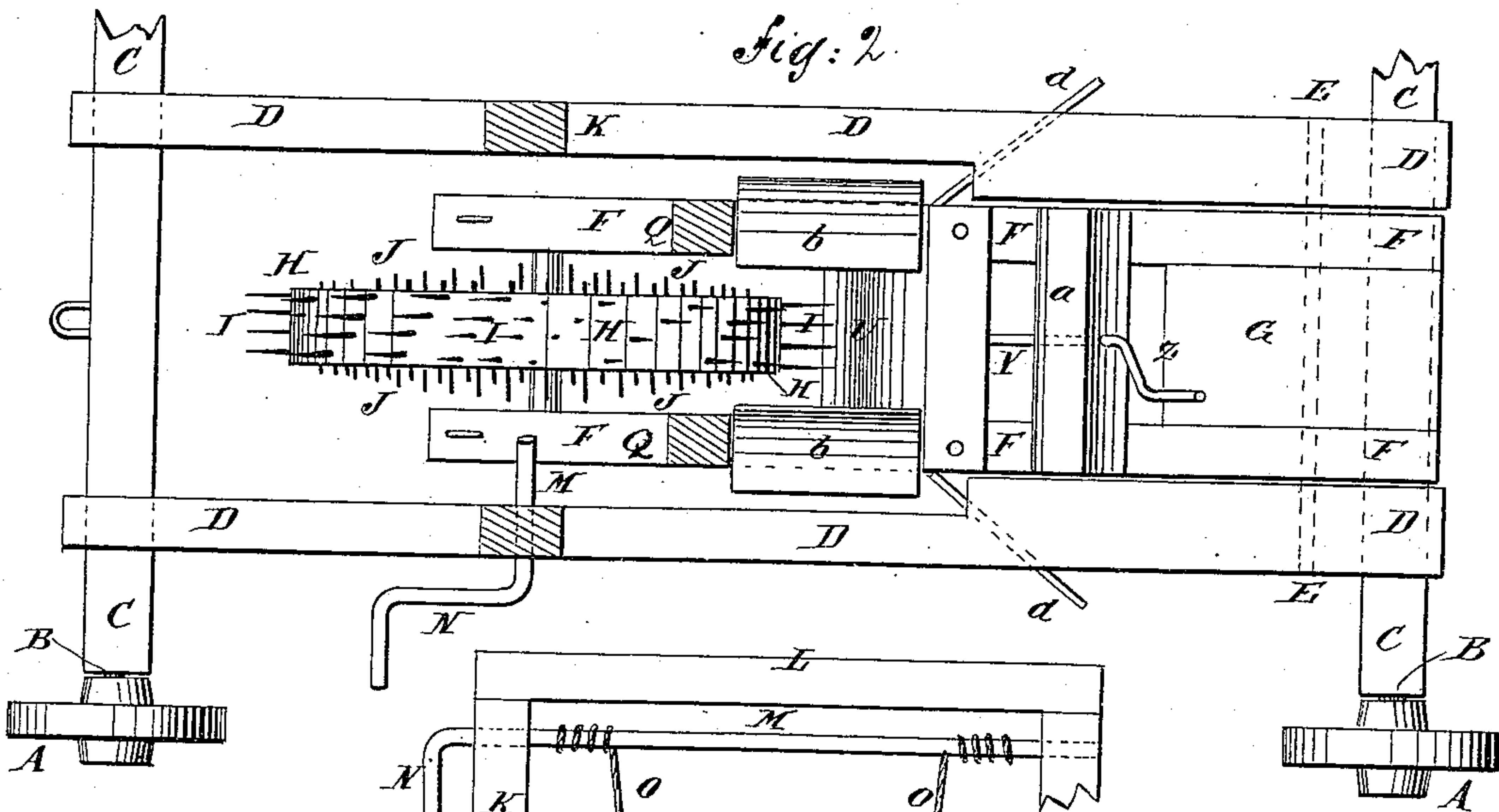


Fig. 2.

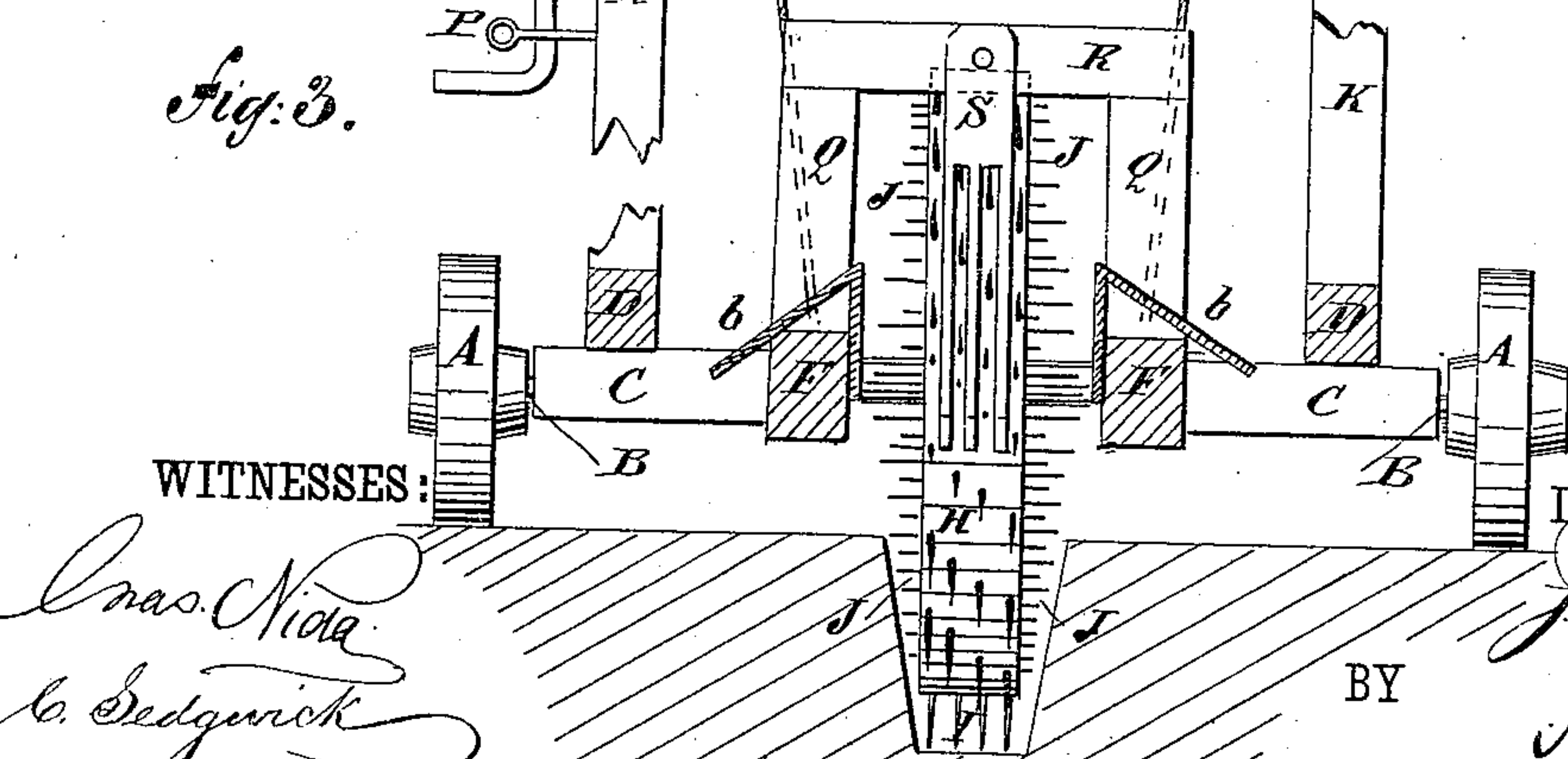


Fig. 3.

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DITCHER.

SPECIFICATION forming part of Letters Patent No. 310,001, dated December 30, 1884.

Application filed March 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN WEBSTER, of Kendall Mills, in the county of Orleans and State of New York, have invented a new and useful Improvement in Ditchers, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of my improvement. Fig. 2 is a plan view of the same, parts being broken away. Fig. 3 is a sectional rear elevation of the same.

The object of this invention is to facilitate the opening of ditches for stone or tile.

The invention consists in a ditcher constructed with a truck, a frame hinged to the truck-frame, and carrying a cylinder provided upon its face and ends with spikes for loosening the soil, with a share for separating the soil from the bottom of the ditch, with a shoe and inclined aprons for conducting the soil to the ground, and with scrapers for pushing the soil back from the edges of the ditch, as will be hereinafter fully described.

A represents the truck-wheels, to the axles B of which are secured bolsters C in the ordinary manner.

To the end parts of the bolsters C are secured the ends of two bars, D, which form the truck-frame.

To and between the rear parts of the side bars D of the truck-frame are hinged, by a long bolt, E, or other suitable means, the rear ends of the side bars F, which are kept at the proper distance apart by one or more blocks or short bars, G, interposed between the said rear ends.

To and between the forward ends of the side bars F is journaled the wheel or cylinder H, which may be made of any desired diameter and length.

To the face of the ditching-cylinder H are attached spikes I, about six inches in length, and which are arranged in annular rows around the said cylinder, while also running in inclined rows across its face, as shown in Figs. 2 and 3.

To the ends of the cylinder H are attached

spikes J, which gradually increase in length from the circumference toward the center, as shown in Figs. 2 and 3.

To the side bars D, opposite the center of the cylinder H, are attached the lower ends of two standards, K, the upper ends of which, above the top of the said cylinder H, are connected by a cross-bar, L.

In bearings in the standards K, below the cross-bar L, is journaled a shaft, M, having a crank, N, formed upon or attached to one end.

To the shaft M are attached the ends of two ropes or chains, O, the other ends of which are attached to the ends of the side bar F of the cylinder-frame, so that the cylinder H can be raised and lowered by turning the crank-shaft M. The cylinder H is secured in any position into which it may be raised by a pin, P, inserted in a hole in the standard K in such a position that the crank N will strike against it, as shown in Fig. 3.

To the side bars F, opposite the rear part of the cylinder H, are attached the lower ends of two standards, Q, the upper ends of which are connected by a cross-bar, R.

To the rear side of the cross-bar R is bolted or otherwise secured the upper end of a plate, S, the lower end of which rests against the face of the rear side of the cylinder H, and is slotted for the passage of the rows of teeth I, so that the face of the said cylinder will be kept clear from adhering soil.

To and between the side bars F, a little in the rear of the cylinder H, is secured, by a long bolt, T, or other suitable means, a shoe or scoop, U, the lower part of which is curved to correspond with the curvature of the cylinder H, so as to keep the dirt in contact with the face of the said cylinder until it reaches the level of the side bars F, when it falls upon the inclined aprons or chutes b and is guided to the ground at the sides of the ditch.

Below the lower end of the shoe U is placed a point or share, V, which rests upon a support, W, attached to the side bars F.

Upon the center of the upper edge of the share V is formed, or to it is attached, a nut, X, through which passes a screw, Y. The screw Y has a crank, Z, attached to its upper end, and is swiveled to a cross-bar, a, attached

to the side bars F, so that the said share V can be adjusted to separate a thicker or thinner slice from the bottom of the ditch, as may be required. With this construction the spikes
5 or teeth I loosen the dirt and carry it up the shoe U to the inclined aprons b, down which it slides to the sides of the ditch. The teeth or spikes J bevel the sides of the ditch, so that the cylinder H and shoe U will not bind, and
10 so that the said shoe will come in contact only with the loose soil.

To the lower sides of the rear parts of the side bars D are attached the upper ends of supports c, to the lower ends of which are attached scrapers d, to push back the soil from
15 the edges of the ditch.

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

1. A ditcher constructed substantially as
20 herein shown and described, and consisting of the truck, the hinged frame, the cylinder having spikes upon its face and ends for loosening the soil, the shoe for raising the soil from the bottom of the ditch, and the scrapers for
25 pushing the soil back from the edges of the ditch, as set forth.

2. In a ditcher, the cylinder H, provided with the spikes I around its face in inclined rows, and the spikes J on its ends, the said spikes J increasing in length from the circum- 30
ference toward the center, substantially as shown.

3. The combination, with the hinged frame F and the spiked cylinder H, of the scraper S, secured in rear of the cylinder by frame Q 35
R, shoe U, inclined support W, and the adjustable share V, arranged between the shoe U and support W, substantially as set forth.

4. In a ditcher, the combination, with the hinged frame F, the digging-cylinder H, and 40
the shoe U, of the adjustable share V and the swiveled adjusting-screw Y, substantially as herein shown and described, whereby the depth of the furrow-slice can be regulated, as set forth.

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Witnesses:

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