

(No Model.)

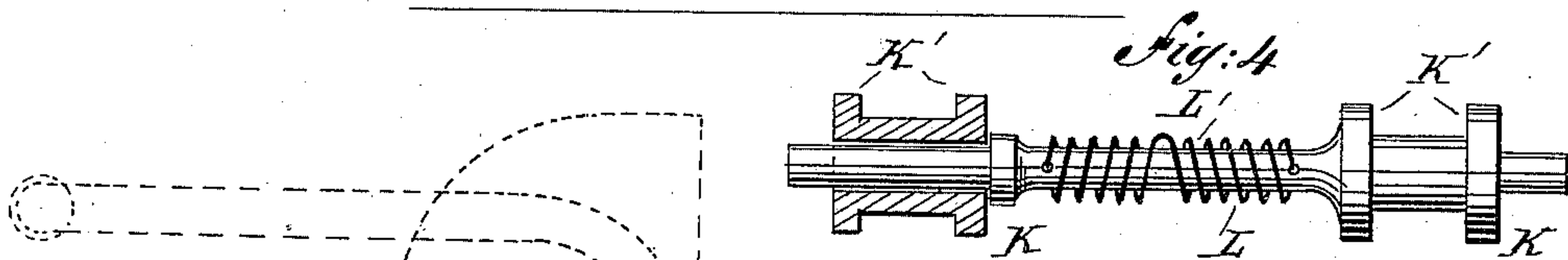
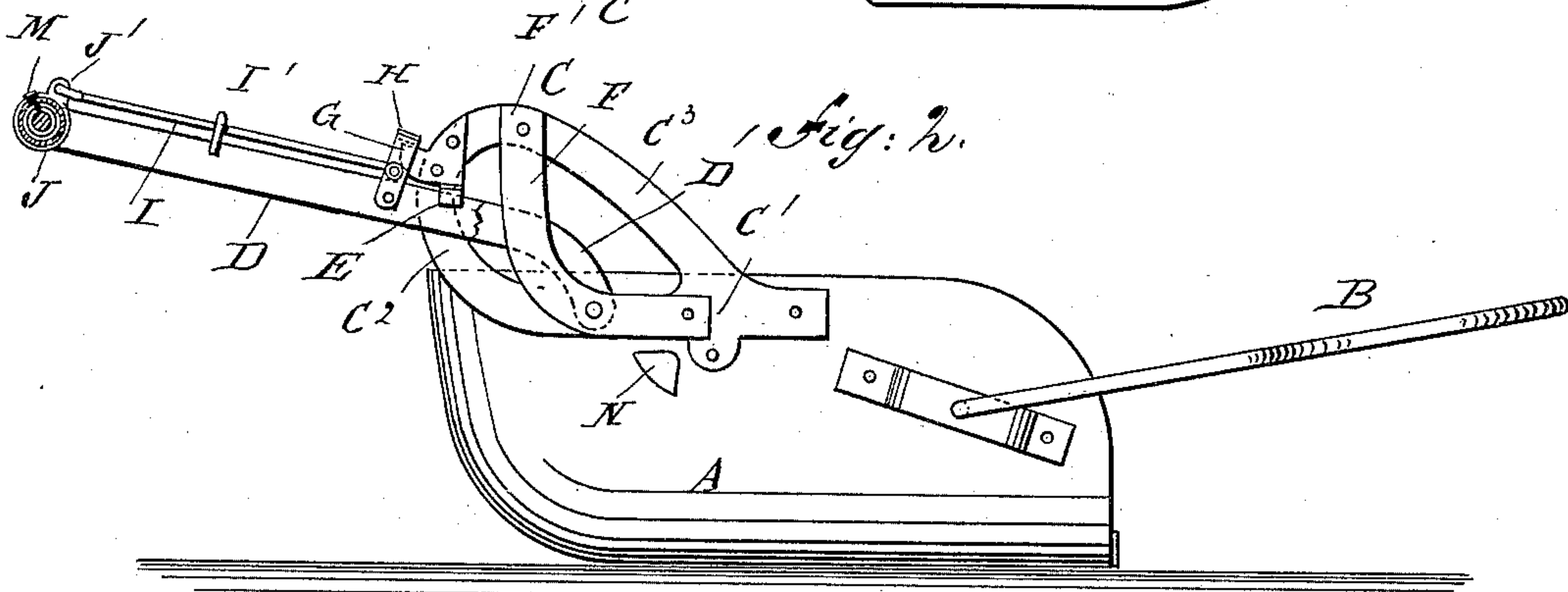
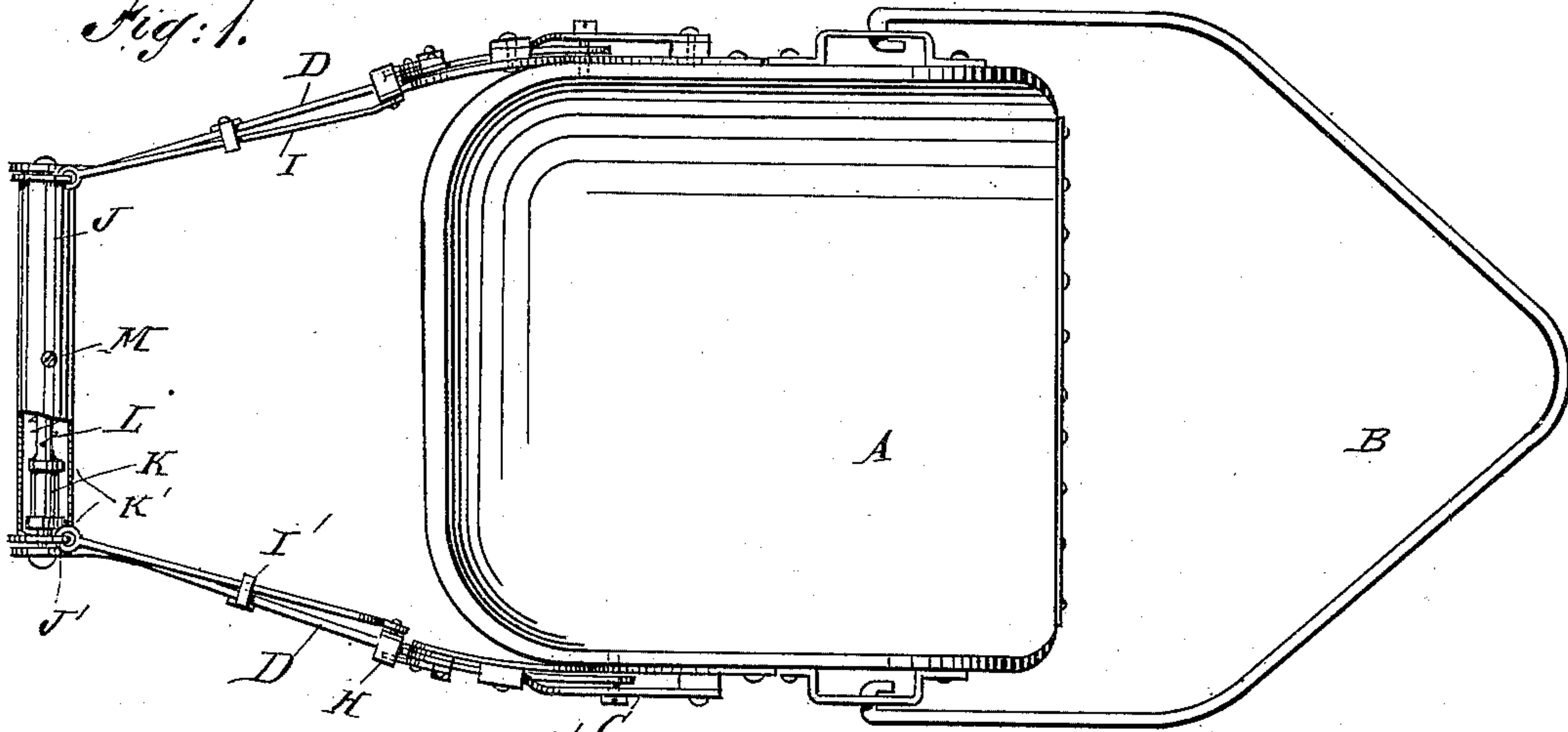
J. D. BRAINARD.

EARTH SCRAPER.

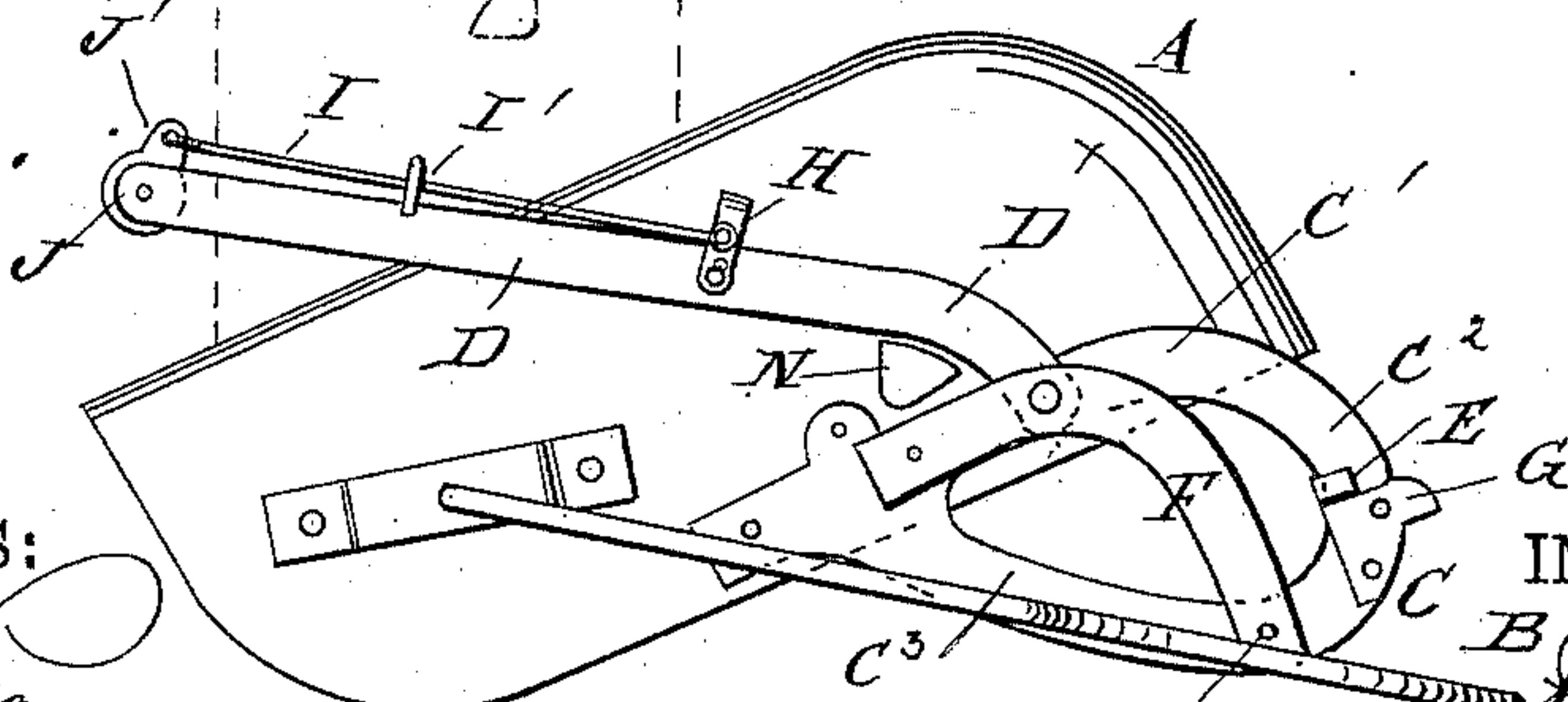
No. 378,571.

Patented Feb. 28, 1888.

*Fig: 1.*



*Fig: 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JULIUS D. BRAINARD, OF HIGHMORE, DAKOTA TERRITORY, ASSIGNOR TO  
HIMSELF AND JAMES H. LYNCH, OF SAME PLACE.

## EARTH-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 378,571, dated February 28, 1888.

Application filed June 18, 1887. Serial No. 241,745. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS D. BRAINARD, of Highmore, in the county of Hyde and Territory of Dakota, have invented a certain new and useful Improvement in Earth-Scrapers, of which the following is a specification.

The object of my improvement is to provide an earth-scraper which is more effective and convenient in operation than those ordinarily used.

I will first describe in detail an earth-scraper embodying my improvement, and then point out the various features of the improvement in claims.

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

Figure 1 is a plan view of an earth-scraper embodying my improvement, part of the handle being broken out. Fig. 2 is a side view of the said scraper, the handle being in section. Fig. 3 is a side view of the same, showing the scoop, in dotted lines partially and in full lines wholly, overturned. Fig. 4 is a side view, partly in section, of the inner portion of the handle of the scraper.

A designates a dumping-scoop, which may be of the common form shown, and B an inflexible draw-bail pivoted, as usual, to the front end of the scoop. To the rear upper sides of the scoop are rigidly secured the rigid upright frames C. Each frame C is composed of a straight lower member, C', which may be bolted or riveted, as shown, lengthwise to the outside of the scoop A just below its upper side edge, an upwardly-curved rear member, C<sup>2</sup>, extending above said upper edge, and an upwardly and rearwardly curved or inclined member, C<sup>3</sup>, connecting as a brace the front end of the straight member C' with the upper end of the curved member C<sup>2</sup>.

To the straight members C' of the opposite frames C are pivoted the ends of the pair of handle-levers D, which are adapted to bear upward against the shoulders of keepers E on the rear members, C<sup>2</sup>, of the frames C, and have their forward ends curved downward at D' to their pivots to better withstand the strain thereat.

Rearwardly-curved members F span the frames C outside the levers D and in front of the rear members, C<sup>2</sup>, of said frames, so as to serve with said rear members as guides to hold the levers D against lateral movement. As the guide members F and frame members C<sup>2</sup>, respectively, do not bear upon the levers at opposite points thereof, accumulation of dirt and consequent hinderance to the swing of the levers are prevented.

A lug, G, projects rearwardly from the member C<sup>2</sup> of each frame C in position to be engaged by an inverted-U-shaped catch, H, having its lower ends pivoted to opposite sides of the corresponding handle-lever D.

A rod, I, connects each swinging catch H with a crank, J', on either end of a transverse rotary handle-bar, J, mounted on the levers D, and is guided in a keeper, I', on the corresponding lever D.

The handle-bar J is tubular and surrounds and is adapted to rotate on pairs of collar-bearings K' on the ends of a tension-rod, K, connecting the ends of the two handle-levers D, the outer ones of said bearings forming shoulders which bear against the inner sides of the levers D to hold the same against compression.

A reversely-coiled spring, L, is placed on the reduced portion of the tension-rod K, is connected at both ends thereto, and has a central loop, L', in which an interior pin or set-screw, M, on the rotary handle-bar J is caught, the tension of the spring L serving to turn the handle-bar so as to hold the catches H normally in engagement with the lugs G.

In dumping, the handle-bar is, as usual, raised somewhat to engage the front edge of the scoop with the earth. By this action the handle-bar, being in the hand's grasp, is naturally turned on its bearings so as to retract the catches H from the lugs G, thereby allowing the scoop to tilt upward and dump its load as it is drawn along.

The handle-levers and draw-bail being pivoted to opposite ends of the scoop, the scoop can be maintained in an upright position, as shown in dotted lines in Fig. 3, by properly holding on the handle-bar to spread the dumped earth; or the scoop can be allowed to overturn to the position shown in full lines in



Fig. 3. In this position the outer ends of the guide members F form shoulders F', which rest on the sides of the draw-bail B, which is suitably bent into the path of said shoulders, so as to hold the closed back of the scraper raised from the ground and not disturb the deposited earth. Shoulders N likewise project from the opposite sides of the scoop in position to support the handle-levers D, so that they can be conveniently seized for returning the scoop to its normal position. This is done by simply drawing on the handle-bar, as the shoulders F', resting on the draw-bail, as described, bring the pivots of the draw-bail below the draft-lines of the handle-levers, so as to give the requisite purchase to the same.

This form of scraper is easily distinguishable from those in which the scoop turns through a complete revolution, and thus skips and leaves untouched a certain space of ground each time it is dumped.

A scraper embodying my improvement can be brought back after each dumping action exactly to the point where the previous scraping ended, thereby economizing much time and labor.

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

1. In an earth-scraper, the combination of a scoop-locking device, a rotary handle-bar, and connections between the two for operating said locking device, substantially as described.

2. In an earth-scraper, the combination of a catch, a rotary handle-bar, and mesne connections for operating said catch, handle-levers, a rod supported by said levers, on which rod the handle-bar turns, and a coiled spring surrounding said rod and connecting the same with the handle-bar, substantially as described.

3. In an earth-scraper, the combination of a lug on the scoop, handle-levers, a pivotal

catch and a rotary handle-bar on the same, and a device connecting the catch with a crank portion of the handle-bar; substantially as described.

4. In an earth-scraper, the combination of a scoop, A, rigid members C<sup>2</sup> and F, and a handle-lever, D, working and guided between said members, which bear at different points on opposite sides of the handle-lever, as and for the purpose set forth.

5. In an earth-scraper, a frame for holding the handle-lever to the scoop, composed of the member C', attached to the scoop, the rear guide member, C<sup>2</sup>, projecting above the scoop, and the brace member C<sup>3</sup>, connecting said members C' and C<sup>2</sup>, and the outside guide member, F, connecting the members C' and C<sup>3</sup>, substantially as described.

6. In an earth-scraper, the combination of a scoop, a handle-lever pivoted thereto, and a shoulder projecting laterally from the scoop, forward of the pivot and in the path of the handle-lever, and so arranged as to uphold the same when the scoop is overturned, substantially as described.

7. In an earth-scraper, the combination of a scoop, a rigid pivotal draw-bail, and a shoulder, F', on the scoop in the path of the draw-bail, and arranged to rest upon the same and uphold the closed end of the scoop when the same is overturned, substantially as described.

8. A handle-bar for connecting the handle-levers of an earth-scraper, constructed of a central tension-rod, compression-collars on said rod between the handle-levers, and a rotary tubular bar mounted loosely on said compression-collars, substantially as shown and described.

JULIUS D. BRAINARD.

Witnesses:

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