

(No Model.)

D. W. JONES.
LEVELER AND GRADER.

No. 566,716.

Patented Aug. 25, 1896.

Fig. 1.

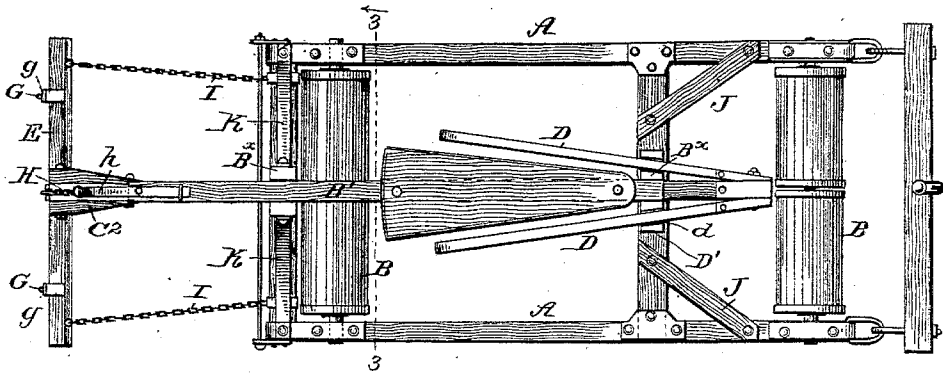


Fig. 2.

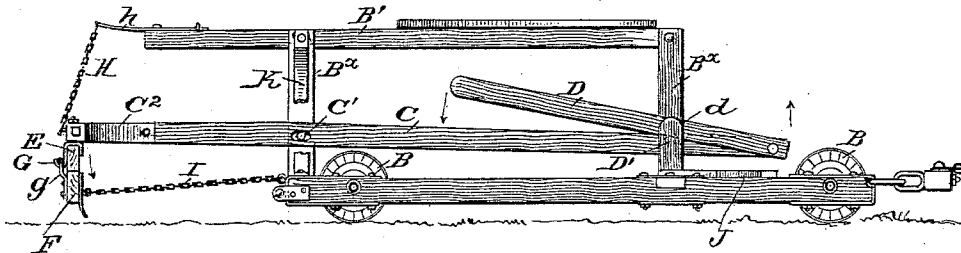


Fig. 3.

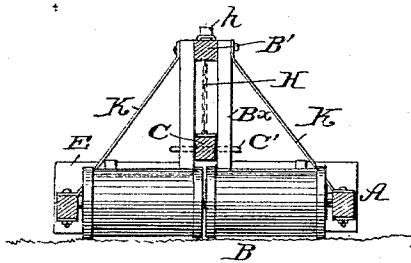


Fig. 4.

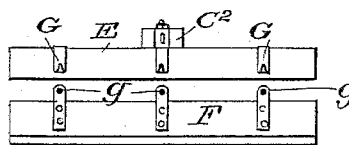
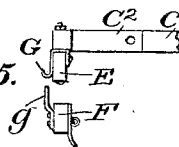


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DANIEL W. JONES, OF SALT LAKE CITY, UTAH, ASSIGNOR OF ONE-HALF
TO HERMAN BAMBERGER, OF SAME PLACE.

LEVELER AND GRADER.

SPECIFICATION forming part of Letters Patent No. 566,716, dated August 25, 1896.

Application filed August 6, 1895. Serial No. 558,388. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. JONES, of Salt Lake City, in the county of Salt Lake and Territory of Utah, have invented a new and
5 useful Improvement in Levelers and Graders, of which the following is a specification.

My invention is a machine for leveling and grading roads, race-tracks, surfacing railroad-grades or plowed lands, or for other similar
10 uses for which the machine may be employed; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

15 In the drawings, Figure 1 is a top plan view. Fig. 2 is a side view, parts being broken away and others shown in section. Fig. 3 is a transverse section of leveler and grader, and Figs. 4 and 5 are detail views of parts thereof.

20 My machine comprises a suitable frame A, supported near its front and rear ends by the rollers B, which are alike and are constructed of staves banded at their ends by light iron hoops and revolving on piping, but mani-
25 festly the rollers might be otherwise constructed or supported without departing from the invention. The frame A has upright posts B^x set slightly apart and supporting the top or seat beam B^y.

30 The lever-beam C extends between the posts B^x B^x, being pivoted at C' between the rear pair of such posts and guided by the front pair, being extended considerably in advance of said front posts, as shown.

35 The treadles D are arranged one on each side of the lever and beam, are pivoted between their ends at d in fulcrum-posts D', connect at their forward ends with the front
40 end of the lever-beam and have their rear ends arranged on opposite sides of the seat-beam in position to be operated upon by the feet of the driver seated upon the said beam. By this construction it will be seen that great
45 pressure can be exerted upon the lever-beam to cause the same to force the scraper or other tool hard against the ground, and this pressure can be regulated and controlled in the simplest and easiest manner. It will also be
50 seen that the lever-beam being centrally between the sides of the frame is so supported

as to be able to operate without disturbing the proper balance of the machine.

The pivot-hole at C' in the beam C is slotted longitudinally of the beam, permitting a slight sliding movement thereof, enabling the
55 chains to tighten when scraping, so as to relieve the pivot-bolt of all dragging strain.

At its rear end the lever-beam is widened out at C², producing a head-like portion forming a better connection with the hanger-bar
60 E, which overlies and is connected with the scraper-tool F, such connection being preferably effected by hooks G on the hanger co-operating with eyebars g on the scraper.

A chain H connects the rear end of the
65 lever-beam with a spring h, connected with the rear end of the top beam, such spring tending to normally lift the said lever-beam end and the parts connected therewith when pressure is not exerted by the treadles, as be-
70 fore described.

Chains I connect the scraper near its opposite ends with the frame A, so the drag strain thereof may be borne by the frame.

Lateral truss-bars J extend between the
75 forward portions of the side bars of the frame A, and the cross-bar supporting the front posts and rods K brace the rear posts, and the frame and other parts may be ironed where
80 wear or strain requires it.

Manifestly the scraper may be readily removed and other tools, such as rake-heads, markers, or furrowers for preparing land for
85 irrigation, scratchers or buffers for dressing tracks, or other suitable tools, may be attached similarly to the scraper or otherwise, as may be desired.

The scraper being held by chains may be adjusted to different angles, thus making a
90 grader.

Manifestly the details and proportions of the supporting-frame may be modified without departing from some of the broad principles of my invention. I find the rollers best
95 for plowed lands, but on other work the frame may be carried on wheels.

The frame, as shown, forms a convenient carriage in the open space for either disk or tooth harrows, and the lever devices can be
100 used on cultivators.

In passing over the ground when the scraper touches high places the treadles will press up against the feet. This pressure must be resisted. When low ground is passed over, no pressure is placed upon the treadle more than to keep it engaged to distribute the soil.

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

1. In a machine substantially as described the combination with the lever-beam of the treadles the tool suspended from said lower beam the suitable supporting-framing having a seat-beam and a spring-support for the rear end of the lower beam substantially as set forth.

2. The combination with the supporting-frame of the lever-beam, the treadles a spring exerting an upward tendency on the rear end of the lever-beams and the tool substantially as set forth.

3. In a machine substantially as described the combination of the framing, the lever-beams pivoted between their ends thereto, the treadles engaged at their forward ends with the front end of the lever-beam extended thence rearwardly on opposite sides of the lever-beam and pivoted between their ends to the framing all substantially as and for the purposes set forth.

4. The combination of the lever-beam provided with the hanger, the tool below said hanger, the hooks and eyes connecting said

hanger and tool and the treadles substantially as set forth.

5. The combination of the framing the lever-beam pivoted thereto and having a limited longitudinal movement the tool connected with the lever-beam and the connections between said tool and the frame substantially as and for the purposes set forth.

6. The combination with the supporting-frame and the top beam, the lever-beam, the spring connection between the top and lever beams, the treadles and the tool substantially as set forth.

7. In a machine substantially as described the combination of the main frame, the posts thereon and slightly separated, the lever-beam operating between said posts, the seat or top beam on the posts the treadles and the tool all substantially as set forth.

8. The improved machine herein described consisting of the frame having upright posts set slightly apart the top or seat beam on said posts, the lever-beam between the posts, the treadles on opposite sides thereof, the hanger at the rear end of the lever-beam, the spring supporting the rear end of the lever-beam, the tool the hooks and eyes connects the tool and hanger and the chains connecting the tool with the main frame substantially as set forth.

DANIEL W. JONES.

Witnesses:

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