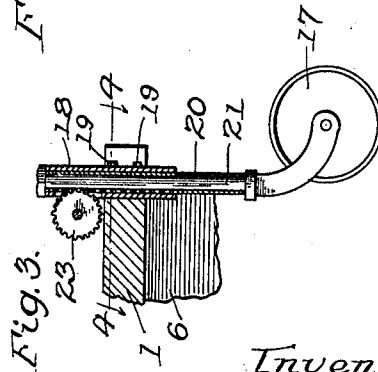
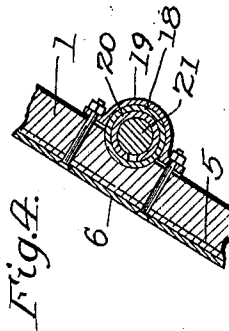
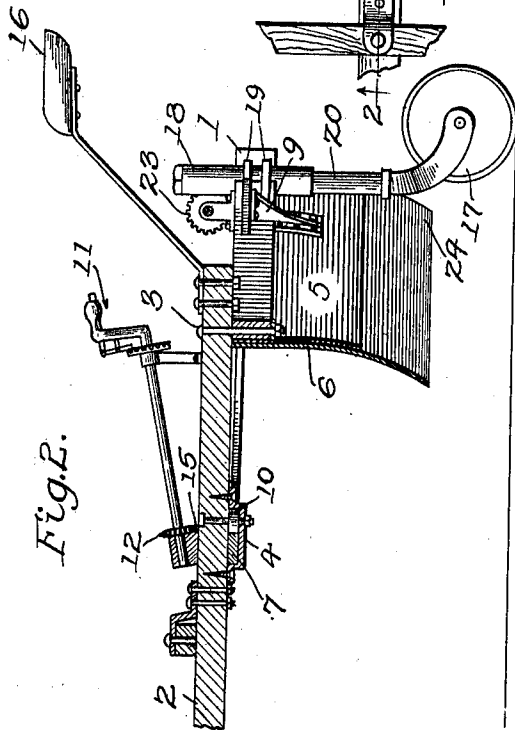
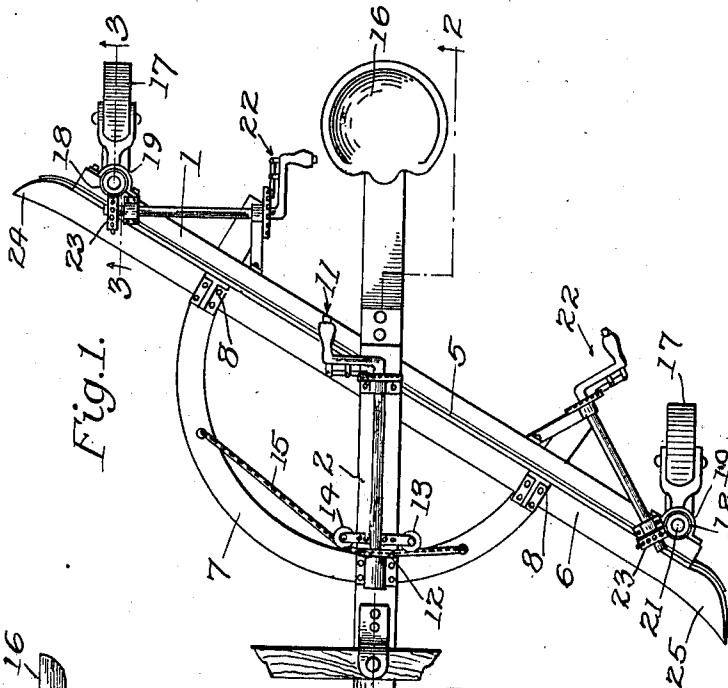


D. P. HENNINGER.
ROAD GRADER.
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982,427.

Patented Jan. 24, 1911.



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UNITED STATES PATENT OFFICE.

DAVID P. HENNINGER, OF REDONDO BEACH, CALIFORNIA.

ROAD-GRADER.

982,427.

Specification of Letters Patent.

Patented Jan. 24, 1911.

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To all whom it may concern:

Be it known that I, DAVID P. HENNINGER, a citizen of the United States, residing at Redondo Beach, California, have invented a new and useful Dirt-Road Grader, of which the following is a specification.

My object is to improve the details of a dirt road grader; and my invention consists of the novel features herein shown, described and claimed.

In the drawings: Figure 1 is a top plan view of a dirt road grader embodying the principles of my invention. Fig. 2 is a vertical longitudinal section on the line 2—2 of Fig. 1. Fig. 3 is a vertical sectional detail on the line 3—3 of Fig. 1. Fig. 4 is a horizontal sectional detail on the line 4—4 of Fig. 3.

Referring to the drawing in detail, the cross bar 1 is pivotally connected to the rear end of the tongue 2 by the pivot bolt 3, the housing 4 mounted upon the lower side of the tongue. A heavy sheet metal scraper brace 5 is placed against the cross bar 1 and the scraper 6 is placed against the scraper brace and secured in place.

The tongue brace 7 is semicircular in plan and extends slidingly through the housing 4 and both ends extend backwardly through the scraper 6, through the scraper brace 5 and through the cross bar 1. Brackets 8 are placed on top of the tongue brace 7 in front of the scraper 6 and brackets 9 are placed below the tongue brace back of the cross bar 1 and scraper brace 5. A roller 10 is placed in the housing 4 back of the tongue brace. A tongue controller 11 is mounted upon the tongue, there being a sprocket wheel 12 upon controller shaft and guide rollers 13 and 14 upon each side of the sprocket wheel. A chain 15 is connected at each end to the tongue brace 7 on opposite sides of the tongue, said chain running over the guide rollers 13 and 14 and under the sprocket wheel 12, so that the angle of the scraper relative to the tongue may be regulated by manipulating the tongue controller.

The seat 16 is fixed upon the rear end of the tongue. Caster wheels 17 are connected to the ends of the cross bar 1. The details of each caster wheel are as follows: A tubu-

lar bearing 18 is recessed into the cross bar 1 and held in place by clamps 19. A tubular gear rack 20 is slidingly mounted in the bearing 18 and the caster shaft 21 is rotatably mounted in the gear rack. A wheel controller 22 is mounted upon the cross bar 1 and the pinion 23 upon the controller shaft meshes with the gear rack 20, so that by manipulating the controllers the ends of the scraper are raised or lowered, each independent of the other, relative to the caster wheels. The ends of the scraper have plow points 24 and 25, so that the scraper will look like a plow, the edge of the scraper being set to draw into the ground like a plow and the depth of the cut being controlled by the caster wheels, so that by manipulating the tongue controller the dirt may be thrown either way, and so that by manipulating the wheel controllers the road bed may be made of any desired slope crosswise and the ground may be plowed to any desired depth, and so that the scraper may be elevated from the ground when it is desired to move from place to place.

I claim:

1. In a dirt road grader, a cross bar; a tongue pivotally connected at its rear end to the center of the cross bar; a semi-circular tongue brace connected at its ends to the cross bar and slidingly connected to the tongue; a chain connected at its ends to the tongue brace, said ends being upon opposite sides of the tongue; a controller shaft mounted upon the tongue; a sprocket wheel fixed upon the controller shaft and engaging the chain and a controller mechanism for operating the controller shaft; so that by manipulating the controller mechanism the angle of the cross bar relative to the tongue may be adjusted.

2. In a dirt road grader, a cross bar; a scraper secured to the cross bar; a tubular bearing clamped to the cross bar; a tubular gear rack slidingly mounted in the bearing; a caster shaft rotatably mounted in the gear rack; a caster wheel attached to the lower end of the caster shaft and a controller mounted upon the cross bar and having a pinion meshing with the gear rack; so that by manipulating the controller the end of

the scraper may be raised or lowered relative to the caster wheel and held in its adjusted position.

3. In a dirt road grader, a cross bar; a
5 scraper brace extending downwardly from the cross bar and a scraper against the brace and extending downwardly, the ends of the

scraper having plow points and the edge of the scraper being set to draw into the ground.

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