L. E. WILD.

ROAD GRADER.

APPLICATION FILED JULY 16, 1908.

904,106. Patented Nov. 17, 1908.

2 SHEETS—SHEET 1.

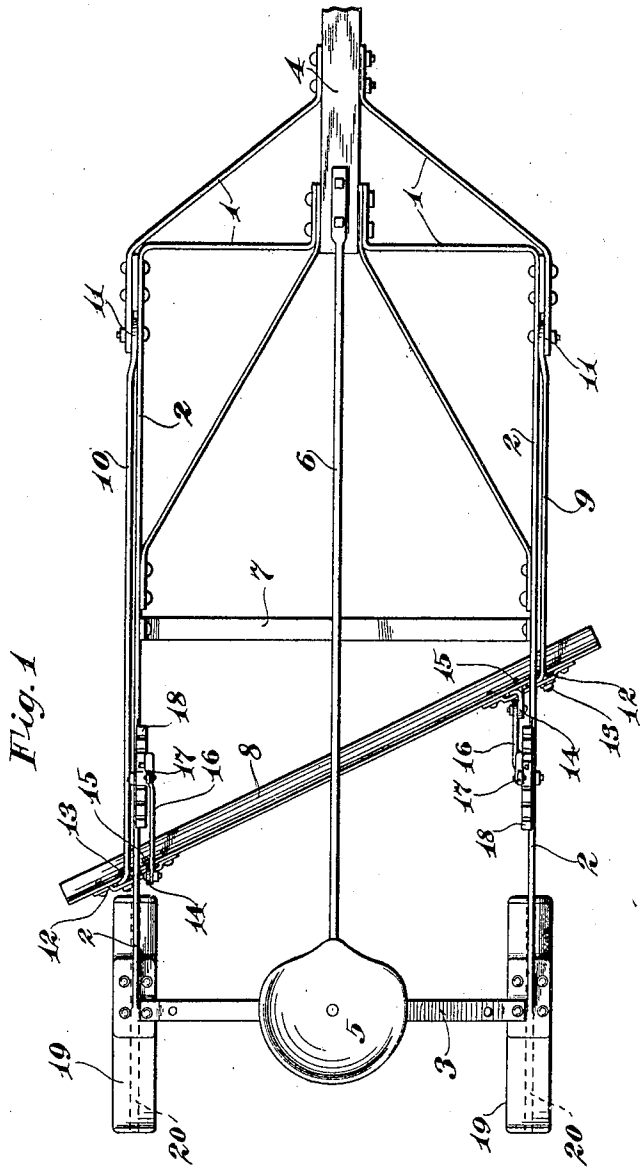


Fig. 1

Witnesses:
L. L. Simpson,
W. H. Souba,

Inventor:
L. E. Wild
By his Attorneys
Williamson Merchant

THE NORRIS PETERS CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 2

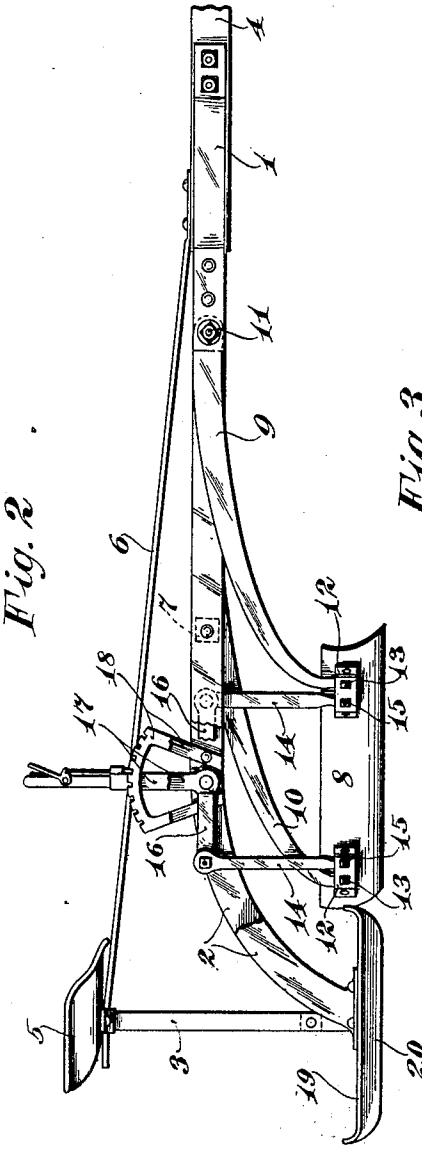
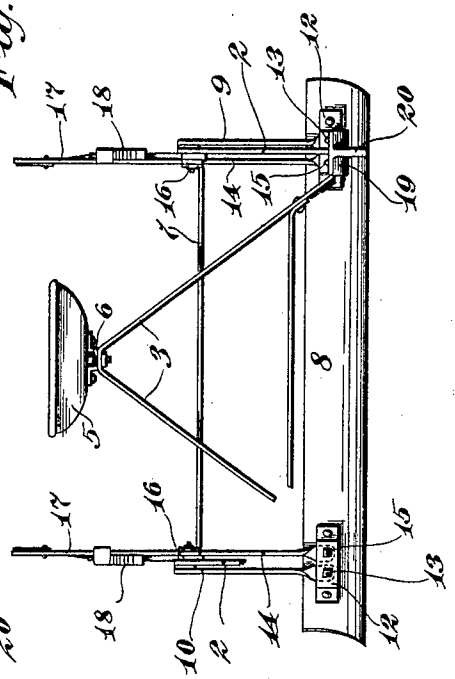


Fig. 3



Witnesses:

L. L. Simpson.

W. H. Souba

Inventor:

L. E. Wild.

By his Attorneys:

Williamson Merchant

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LEWIS E. WILD, OF ELMWOOD, WISCONSIN, ASSIGNOR OF ONE-HALF TO JOSEPH F. LANGER, OF MINNEAPOLIS, MINNESOTA.

ROAD-GRADER.

No. 904,106. Specification of Letters Patent. Patented Nov. 17, 1908.

Application filed July 16, 1908. Serial No. 443,793.

To all whom it may concern:

Be it known that I, LEWIS E. WILD, a citizen of the United States, residing at Elmwood, in the county of Pierce and State of Wisconsin, have invented certain new and useful Improvements in Road-Graders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a simple, strong and efficient road grader or leveler of small cost; and to this end it consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a plan view of the improved grader. Fig. 2 is a side elevation of the same with some parts broken away; and Fig. 3 is a rear elevation of the grader, some parts being broken away.

The main frame of the machine is preferably constructed from wrought iron or steel bars bent and secured together to form a trussed front end portion 1, parallel side bars 2, and an upright transversely extended trussed A-frame 3. A pole 4 is rigidly secured to the trussed front portion 1 of the frame, and a seat 5 is supported on top of the A-frame structure 3. Also the top portion of the frame 3 is shown as connected to the pole 4, by a long brace rod or bar 6; and the side bars 2 are tied together at their intermediate portions by a transverse bar 7 that serves as a foot rest for a person on the seat 5.

An obliquely set scraper blade 8 is connected to the rear ends of a pair of drag bars 9 and 10, the latter of which is considerably longer than the former, and both of which are pivotally connected, at 11, to the front end portions of the side bars 1. To the rear face of the scraper blade 8, near its ends, coupling brackets 12 are rigidly secured, and the down-turned ends of the drag bars 9 and 10 are, as shown, twisted into planes extending transversely of the machine, are inserted between the coupling brackets 12 in the rear face of the scraper blade 8 and are pivotally connected thereto, by bolts or pins 13, thereby affording pivotal connections between the said plate and drag bars, which, while they hold the blade in an upright operative position, nevertheless permit independent vertical adjustments of the opposite ends of the scraper blade, so that the latter may be set at any desired inclination in respect to the level position, for different grading actions. In a similar manner, the lower ends of lifting links 14 are pivotally connected between the said scraper blade 8 and brackets 12, by means of bolts or pins 15. The upper ends of these links 14 are pivotally connected to arms 16 of latch levers 17, which latter are pivotally connected one to each side bar 2 and are adapted to be set in different adjustments by interlocking engagement with notched latch segments 18 rigidly secured to the respective side bars 2. The said side bars 2, at their rear ends, are downwardly curved and are rigidly secured to shoes 19 that are provided with depending longitudinally extended flanges 20, which flanges will enter the ground or road-bed more or less, depending on the degree of softness, and will hold the machine against sluing or lateral crowding action to which the frame thereof is subjected by the action of the obliquely set scraper blade on the ground.

It is important to note that the arms 16 of the latch lever that is connected to the most forward end of the scraper blade 8 is forwardly extended, and that its coöperating latch segment 18 is located at the rear of said blade, while the arm 16 of the latch lever 17 that is connected to the most rearward portion of said blade 8 is rearwardly extended, and that its coöperating latch segment 18 is located in front of the said scraper blade. This permits the use of raising and lowering devices for the opposite ends of the scraper that are of the same construction, except in respect to the direction of projection of said arms. Also it provides a construction in which, simply by inter-changing the two latch levers and correspondingly inter-changing the two drag bars, the machine may be converted from a right hand grader into a left hand grader, or vice versa.

A machine constructed as above described, while efficient for the purposes had in view,

is of light construction and, furthermore, has the important advantage that it may be made at comparatively small cost.

What I claim is:

1. In a grader, the combination with a main frame, and a pair of drag bars of unequal length pivotally connected to said frame at their forward ends, of an obliquely set scraper blade, and means connecting the ends of said scraper blade to said main frame for independent vertical adjustments.

2. In a grader, the combination with a main frame having shoes secured to the rear side portions thereof, of a pole attached to the front end portion of said frame, drag bars of unequal length pivotally attached at their forward ends to the sides of said frame, an obliquely set scraper blade, latch segments and coöperating latch levers applied to the sides of said frame, one segment and lever in front of the rear end portion of said blade and one segment and lever at the rear of the front end portion of said blade, the former noted lever having a rearwardly extended arm and the latter noted lever having a forwardly extended arm, and links connecting the ends of said arms to said scraper blade, substantially as described.

3. In a grader, the combination with a main frame having a horizontal trussed front end portion and a transversely extended trussed rear end portion, of a pole rigidly connected to the trussed front end portion of said frame, a seat applied on the trussed rear end portion of said frame, ground engaging devices applied to the rear side portions of said frame, an obliquely set scraper blade, and scraper blade raising and lowering devices applied to the sides of said frame, one in front of the rear end portion of said blade, and the other at the rear of the front end portion of said blade.

4. In a grader, the combination with a trussed main frame and a pole connected to the front end portion of said frame, of shoes having depending longitudinally extended ground engaging ribs, an obliquely set scraper blade, drag bars of unequal length connecting the ends of said blade to the front end portion of said frame, and independent devices for vertically adjusting the ends of said blade in respect to said frame, substantially as described.

5. In a grader, the combination with a skeleton main frame having a trussed horizontally extended front end portion to which a pole is rigidly secured and provided with a transverse vertically extended trussed rear portion to which a seat is applied, of drag bars of unequal length connected at their forward ends to the sides of said frame, an obliquely set scraper blade pivotally connected to the rear ends of said drag bars for independent vertical adjustments, latch segments and coöperating latch levers applied to the sides of said frame, one segment and one lever at the front of the rear end portion of said blade, and one segment and one lever at the rear of the front end portion of said blade, the first noted lever having a rearwardly extended arm, and the latter noted lever having a forwardly extended arm, and links pivotally connected to the ends of said arms and to the ends of said scraper blade, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS E. WILD.

Witnesses:

CLARK L. CAIN,

ELMER J. MCKERNON.