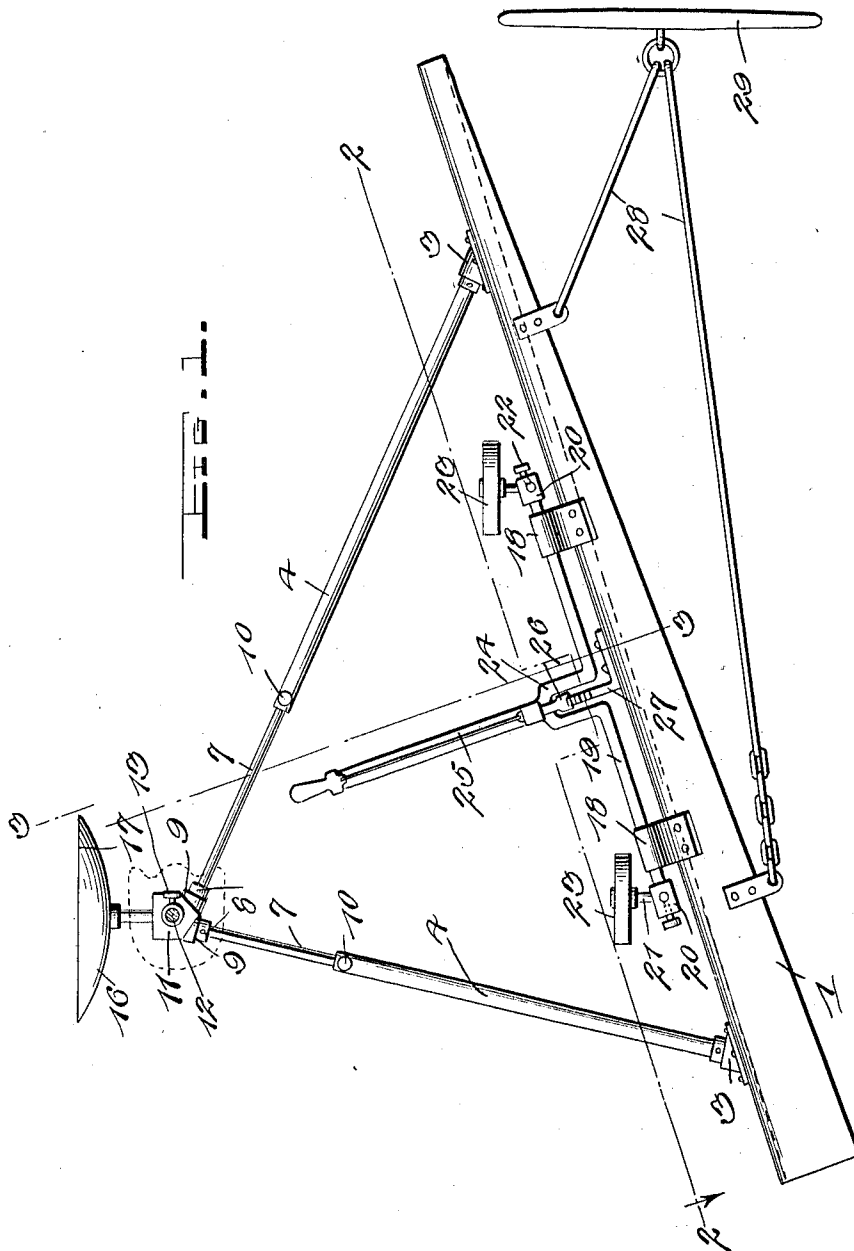


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2 SHEETS—SHEET 1.



Witnesses

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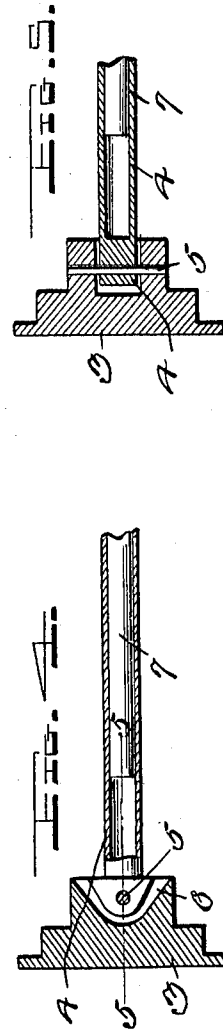
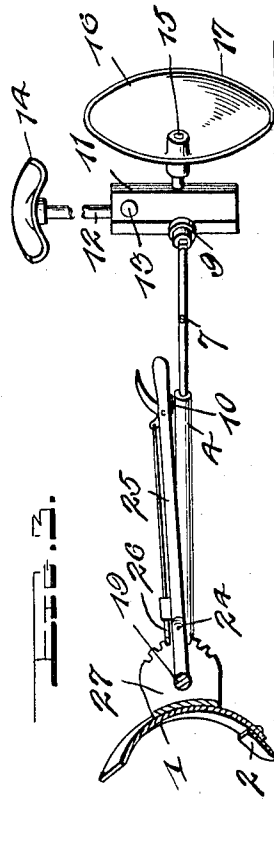
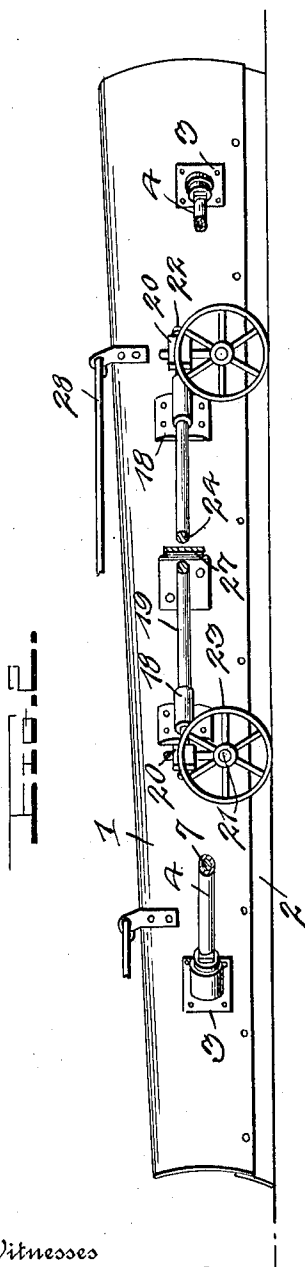
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1,048,243.

J. W. WALLIS.
ROAD SCRAPER.
APPLICATION FILED APR. 15, 1912.

Patented Dec. 24, 1912.

2 SHEETS-SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN WESLEY WALLIS, OF CUERO, TEXAS.

ROAD-SCRAPER.

1,048,243.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed April 15, 1912. Serial No. 690,839.

To all whom it may concern:

Be it known that I, JOHN WESLEY WALLIS, a citizen of the United States, residing at Cuero, in the county of Dewitt and State of Texas, have invented certain new and useful Improvements in Road-Scrapers, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in road grading machines, and the invention has for its primary object an improved construction of road grader which will effectually resist side draft and any tendency to slide laterally off of the grade.

The invention also has for its object an improved construction of machine of this character which will embody a new and useful scraper blade so constructed that the soil will roll laterally from the time it is engaged by the cutter bar of the blade, this part of the machine being so arranged that the machine will possess the characteristic of efficiency to a high degree and not require excessive draft to operate it.

A further object of the invention is a road grading machine embodying a novel construction and arrangement of balance wheel which, in connection with other parts of the apparatus, will prevent the machine from slipping sidewise, the balance wheel being of peculiar shape, as will be hereinafter more specifically set forth, and being so arranged that when the machine is being transported from place to place, the balance wheel will roll over the ground, while when the machine is in operation grading a road, the balance wheel will cut into the soil sufficiently to prevent the side draft, as above noted.

A still further object of the invention is an improved construction in a machine of this character, with means for varying the depth at which the blade shall cut into the soil or road, this portion of the apparatus being so arranged that the operator may easily vary the depth of cut, raise the blade entirely from the road so that the machine may be carried from one place of operation to another or permit the entire weight of the blade to act upon the road.

A further object of the invention is a road grader embodying an improved construction of balance frame which connects the bal-

ance wheel with the blade, whereby said frame may be laterally extended, according to the amount of draft and whether or not the machine is grading heavy or light, the frame being further so constructed that the blade may be adjusted easily to different inclinations with the line of draft, according to the particular requirements of the case.

The invention has for a still further object, a machine of this character embodying an improved arrangement of driver's seat, the post of which is vertically adjustable to meet the particular exigencies of the case, the seat on the top of the seat post being pivotally mounted thereon, whereby the driver may seat himself properly thereon and then turn around to face the front of the machine and be in the line of movement. And the invention also aims to generally improve this class of devices and to render them more useful and commercially desirable.

With these and other objects in view, as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which,

Figure 1 is a top plan view of a road grader constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view thereof, the section being taken on the line 2—2, of Fig. 1, looking in the direction of the arrow. Fig. 3 is a transverse sectional view on the line 3—3, of Fig. 1. Fig. 4 is a detail section of one of the pivotal coupling connections employed, and, Fig. 5 is a detail section on the line 5—5, of Fig. 4.

Corresponding and like parts are referred to in the following description and designated in the accompanying drawings by like reference characters.

Referring to the drawings, the numeral 1 designates the scraper blade of my improved grader, the same being of spiral formation, longitudinally considered, as best indicated by the dotted line in Fig. 1, the concavity of the blade increasing from the front edge toward the rear, whereby the soil will commence to roll as soon as it is cut. The blade

1 may be provided with a preferably hardened steel cutter bar 2 riveted or otherwise secured thereto, as best illustrated in Fig. 2.

Connected to the convex side of the blade 1 near the front and rear ends thereof, are the coupling members 3, one of which is illustrated in detail in Figs. 4 and 5. Laterally converging tubular rods 4 are pivotally connected, as at 5, in tapered sockets 6 formed in the coupling members 3, the adjoining ends of said tubular rods 4 having telescoping therein, the complemental rods 7 which are pivotally connected at one end, as at 8, to coupling members 9 which correspond in construction and function to the coupling members 4 just above mentioned. The telescoping rods 4 and 5, together form a substantial triangular and laterally extensible balance frame, said frame being held at different lateral extensions by means of set screws 10 which are mounted in the tubular rods 4 and which impinge against the rods 7 in an evident manner. It will also be noted that by this construction of frame, by extending one pair of rods to a greater or less extent than the other pair of rods, the blade 1 may be held at different inclinations to the line of draft, according to the particular cut or scraping action desired.

The coupling members 9 are secured in any desired way to a tubular seat base 11 in which a vertically disposed seat post 12 is mounted for vertical adjustment, said post being held in different adjusted positions by means of a set screw 13. On the upper end of the seat post 12, a driver's seat 14 is pivotally mounted whereby the driver may turn to face the line of movement of the apparatus. Projecting laterally from the seat base 11, is a stub shaft 15, on which a balance wheel 16 is journaled. This wheel is formed with a convex side and a sharpened edge 17. In operation the stub shaft 15 is adjusted so as to allow the disk 17 to roll on its edge, whereby it may be operated with the main ground wheels of the machine when the apparatus is traveling along the road to the place of operation and may also roll on its stub shaft 15 as a journal bearing and be in position to offer effectual resistance to side draft when the machine is operated.

The blade 1 is provided on its convex side with front and rear journal bearings 18, in which the ends of a crank shaft 19 are journaled, said shaft extending parallel to the blade, as clearly illustrated in Fig. 1. On the ends of the crank shaft 19, are boxings 20, in which crank axles 21 are mounted for axial adjustment, the axles being held in different adjusted positions by set screws 22 which are carried by the boxings 20 and which impinge against the vertically disposed portions of the crank axles. On the

horizontally disposed portions of the crank axles, ground wheels 23 are journaled. The shaft 19 is formed midway of its ends with a crank 24, to which a substantially horizontally disposed and laterally extending hand lever 25 is connected. This hand lever carries a spring pressed detent 26 which is designed for engagement with a toothed quadrant 27 secured to and extending laterally from the convex side of the blade 1.

28 designates draft links which may be connected in any desired way to a whiffletree 29 or the like and which may be varied in length, according to the inclination it is desired the blade 1 shall have relative to the line of draft.

From the foregoing description in connection with the accompanying drawings, the operation of my improved road grader or scraper will be apparent. In the practical use of the device, when the machine is being moved to the place of operation, the hand lever 25 is so adjusted and locked in engagement with the quadrant 27 that the wheels 23 will contact with the ground and the scraper blade 1 will be raised entirely from the ground, whereby the machine may travel along on the ground wheels 23 and balance wheel 17. When the place of operations has been reached, the hand lever 25 is adjusted so as to permit the blade 1 to lower to the required degree, and obviously, if it be required that the entire weight of the scraper blade be imposed on the road, the hand lever will be raised to a position which will lift the ground wheels 23 entirely out of contact with the ground. In any event, after this adjustment has been effected and the balance frame adjusted laterally to the required extent, according to whether or not the grading will be light or heavy, this adjustment being effected by loosening the set screws 10 and adjusting the rods 7, in or out, the team will draw the scraper along and the balance wheel 17 will so engage the ground as to effectively prevent any side draft or any slipping of the machine off of the grade.

It is to be understood that the balance wheel 17 may have its inclination changed or varied by adjusting one pair of rods 4 and 7 more or less than the other and that by this means and by adjusting the draft links or chains 28, the scraper blade itself may be adjusted to different inclinations according to the line of draft. The driver's seat may be easily raised or lowered by vertically adjusting the seat post 12 and the ground wheels 23 may at all times be caused to move in the line of draft by adjusting the crank axles 21 axially in the boxings 20.

While the accompanying drawings illustrate what I believe to be the preferred embodiment of my invention, it is to be understood that the invention is not limited there-

to, but that various changes may be made in the construction, arrangement and proportions of the parts without departing from the scope of the invention, as defined in the
5 appended claim.

What I claim is:—

10 A road grader including a scraper blade, a pair of coupling members secured to one side thereof, an extensionable rod pivotally secured at one end to each of said coupling members, a vertically positioned tubular seat base, additional coupling members se-

cured intermediate the ends of said base and to which the outer ends of the extensionable rods are connected, an axle extending later- 15 ally from and connected to said seat base, and a balance wheel mounted on said axle.

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

JOHN WESLEY WALLIS.

Witnesses:

A. W. MEREDITH,

R. H. CARSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
