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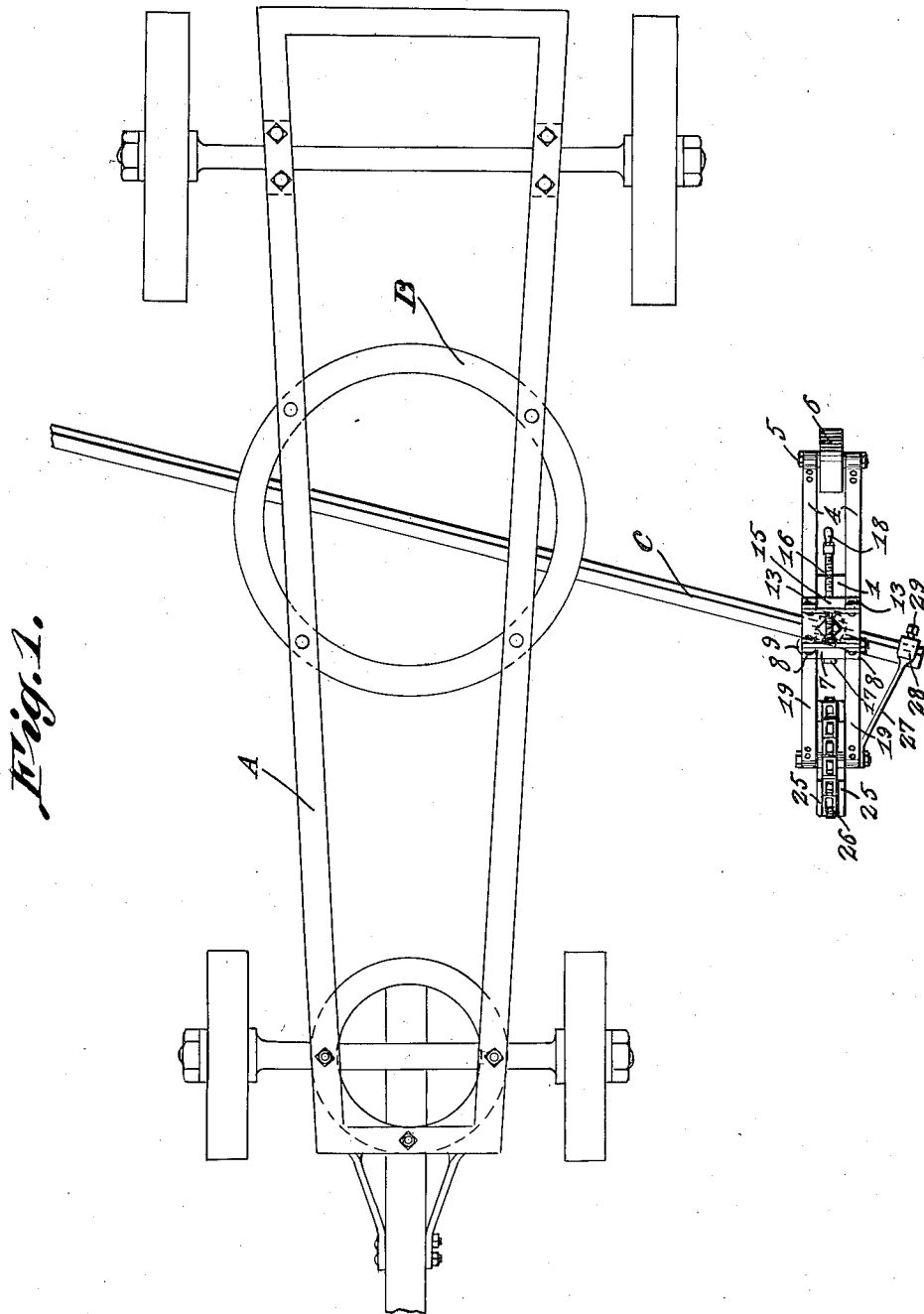
C. A. PEDERSON

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GRADING MACHINE

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2 Sheets-Sheet 1



Carl A. Pederson, INVENTOR
BY *Victor J. Evans & Co.*
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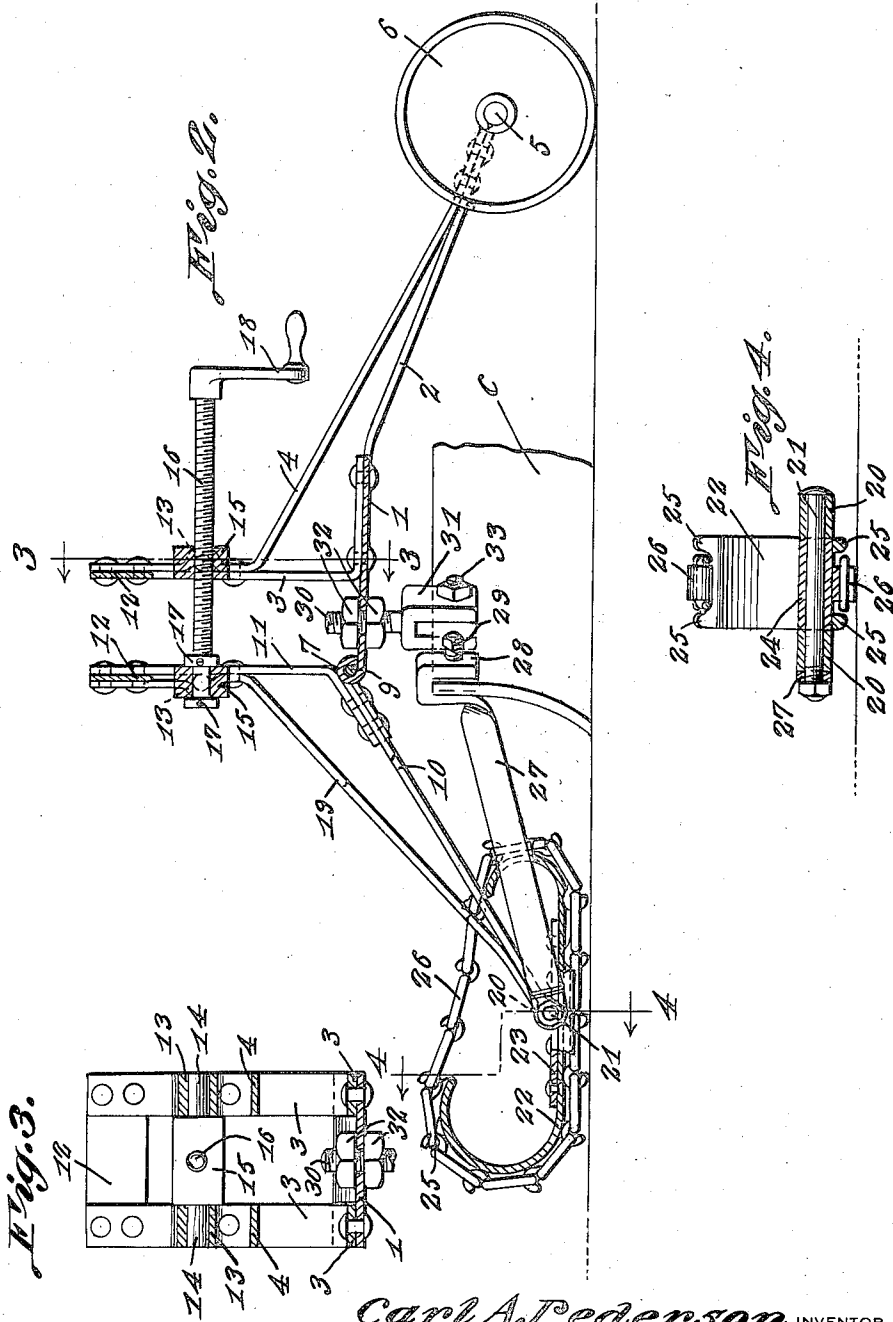
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BY Victor J. Evans & Co.

ATTORNEY

UNITED STATES PATENT OFFICE

2,011,526

GRADING MACHINE

Carl A. Pederson, Bode, Iowa

Application August 6, 1934, Serial No. 738,698

7 Claims. (Cl. 37-143)

This invention relates to road grading machines and its general object is to provide an auxiliary supporting device for the scraper blade of a machine, which is primarily designed to support the end of a blade when scraping the sides of a road, banking or ditching the same, in order to amply support the blade and to relieve strain from the main supporting means, as well as to enable efficient operation of the blade regardless of its angle or the remoteness of the end thereof from the main supporting means.

A further object of the invention is to provide an auxiliary supporting device or truck to support the end of a scraper blade, which is simple in construction, inexpensive to manufacture, easy to apply to the blade, and is extremely efficient in use and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a top plan view showing the application of my truck or blade supporting device to a road scraper.

Figure 2 is an enlarged fragmentary sectional view taken through the truck with the latter secured to the blade.

Figure 3 is a sectional view taken approximately on line 3-3 of Figure 2, looking in the direction of the arrows.

Figure 4 is a sectional view taken approximately on line 4-4 of Figure 2, looking in the direction of the arrows.

Referring to the drawings in detail, the letter A indicates the frame of a road scraping machine which includes the usual supporting and adjusting means B for the blade C, the latter being capable of adjustment transversely of the machine and at various horizontal and vertical angles, as will be apparent.

The auxiliary supporting device or truck which forms the subject matter of the present invention is attached directly to the blade and preferably has no other connection with the machine, and the blade carries the same, yet it amply supports the end of the blade to which it is attached in a manner which will be presently described.

The device includes a frame made up of a pair of sections hinged together and the

rear section includes a body plate 1 which has formed thereon and extending at a downward inclination therefrom a pair of parallel arranged arms 2, and secured to the plate and rising therefrom are angle brackets 3 which have fixed to their upper ends, the upper ends of arms 4, the latter being disposed in converging relation with respect to the arms 2 and have their lower ends fixed to the outer ends thereof, as best shown in Figure 2.

The outer or free ends of the arms terminate in bearings within which is secured an axle 5 for a wheel 6, the latter being journaled to the axle for rotation thereon, as will be apparent.

The body plate has formed thereon and extending forwardly therefrom a sleeve 7 which is disposed between and aligned with collars 8 for cooperation therewith to receive a hinge pin 9 for hingedly securing the front section to the rear section, and the collars 8 are formed on the upper ends of the lower arms 10 of the front section which likewise have secured thereto angle brackets 11 that rise therefrom for cooperative association with the vertical portions of the angle brackets 3.

Bridging the vertical portions of the brackets 3 and 11 are plates 12 which act to hold the upper ends of the vertical portions fixed with respect to each other, and each of the vertical portions have secured thereto bearings 13 arranged in aligned pairs for the purpose of receiving the trunnions 14 of blocks 15, one of which has arranged therein a bore to rotatably receive one end of a screw 16 that is held against endwise movement in its block through the instrumentality of collars 17. The screw is threadedly mounted in the other block and has secured to the free end thereof a handle 18, whereby the sections of the truck can be adjusted with respect to each other.

The front section likewise includes upper arms 19 which have their upper ends secured to the vertical portions of the brackets 11, and the upper arms 19 as well as the arms 4 may be shaped in rounded formation to cooperate with the vertical portions in providing the bearings 13 for the trunnions 14 as clearly shown in Figures 2 and 3.

The lower ends of the arms 19 are fixed to the arms 10 and the lower ends of the arms 10 terminate in bearings 20 to receive a pivot pin 21 for a shoe that is pivotally associated with the front section as clearly shown in Figure 2.

The shoe includes an elongated body 22 having a plate 23 secured to the upper surface

thereof and the plate has formed thereon a bearing 24 to receive the pivot pin 21. It will be noted that the ends of the body 22 are curved upon themselves and the forward curved portion is relatively larger than the rearward portion, but both of the portions as well as the body has formed on the longitudinal edges thereof ribs 25 that provide a channel to accommodate a traction chain 26, the latter being continuous and is movable about the track provided by the body, the curved portions and the ribs 25, as will be apparent upon inspection of Figures 2 and 4.

The pivot pin 21 has one end threaded to accommodate a nut as best shown in Figure 4, therefore this pin is removable and has secured to one end thereof a bracing strip 27 which has its opposite end terminating into a clamping bracket 28 that includes parallel jaws spaced a relatively great distance apart to loosely receive the blade C, one of the jaws being threaded to receive a set screw 29 whereby the bracket 28 can be fixed to the blade when the bracing strip is in use as clearly shown in Figure 2. It will of course be understood that the bracing strip may be adjustable longitudinally and any well known means may be employed for that purpose.

The body plate 1 is provided with an opening through which extends the threaded stud 30 of a forked member 31 which is secured to the body plate 1 through the instrumentality of nuts 32 that are received by the stud 30 as shown in Figure 2, and the arms of the forked member are disposed upon opposite sides of the blade C which together with the arms have arranged therein openings, to accommodate a connection 33 for securing the forked member 31 to the blade.

From the above description and disclosure of the drawings, it will be obvious that I have provided an auxiliary supporting device or truck for a scraper blade of a road grading machine which is not only capable of supporting the end of the blade regardless of the angle of the blade or the remoteness of its end from the main supporting means but is capable of adjustment to cooperate with the main adjusting means of the blade in order to support the latter regardless of the position thereof. The adjustment of the end of the blade is brought about through the instrumentality of the screw 16 which is rotated by its handle 18 to vary the relative positions of the front and rear sections of the truck, it being apparent that the supported end of the blade can be raised or lowered as the occasion demands.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:

1. In a road grading machine including a scraper blade, an auxiliary supporting device for the blade comprising sectional means, ground engaging means for each of the sections, means for adjusting the sections with respect to each other, and means having connection with the sections and adapted to be secured to the blade.

2. In a road grading machine including a

scraper blade, an auxiliary supporting device for the blade comprising a frame including a pair of sections, means hingedly securing the sections together, ground engaging means for each section, means for adjusting the sections with respect to each other, and means carried by each of the sections for connection with the blade.

3. In a road grading machine including a scraper blade, an auxiliary supporting device for the blade comprising a frame including a pair of sections, ground engaging means for the sections and including a wheel and caterpillar means, means for adjusting the sections with respect to each other, and means of connection between each of said sections and the blade.

4. In a road grading machine including a scraper blade, an auxiliary supporting device for the blade comprising a frame including a pair of sections, means hingedly securing the sections together, means including a screw for adjusting the sections with respect to each other, a wheel for one of said sections, a shoe for the other section and including caterpillar means, and means carried by each section for connection with the blade.

5. In a road grading machine including a scraper blade, an auxiliary supporting device for the blade comprising a front section and a rear section, a body plate included in the rear section and being hingedly secured to the front section for connecting the sections together, screw means for adjusting the sections with respect to each other, a wheel for the rear section, a shoe for the front section and including an endless ground engaging chain, means depending from the body plate for connection with the blade, and means having connection with the front section and blade respectively.

6. In a road grading machine including a scraper blade, an auxiliary supporting device for the blade comprising a frame including a pair of sections, brackets for each section and including upright portions, screw means having connection with the upright portions for adjusting the sections with respect to each other, rearwardly and forwardly directed arms for each section, a wheel having connection with the rearwardly directed arms, a shoe pivotally connected with the forwardly directed arms and including caterpillar means, bracing means having connection with the shoe pivot means and the blade respectively, and means of connection between the frame and the blade.

7. In a road grading machine including a scraper blade, an auxiliary supporting device for the blade comprising a frame including a front and a rear section, means pivotally connecting the sections together, upright means included in each section and provided with bearings, blocks mounted in the bearings, screw means journaled in one of said blocks and threaded through the other for adjusting the sections with respect to each other, a handle for the screw means, a wheel for the rear section, a shoe for the front section and including an endless chain, means for connecting the front section to the blade, a body plate included in the rear section, and carrying means for the blade and suspended from the body.

CARL A. PEDERSON.