C. H. WELSH.

ROAD GRADER.

APPLICATION FILED JULY 13, 1921.

1,425,303.

Patented Aug. 8, 1922.

2 SHEETS—SHEET 1.

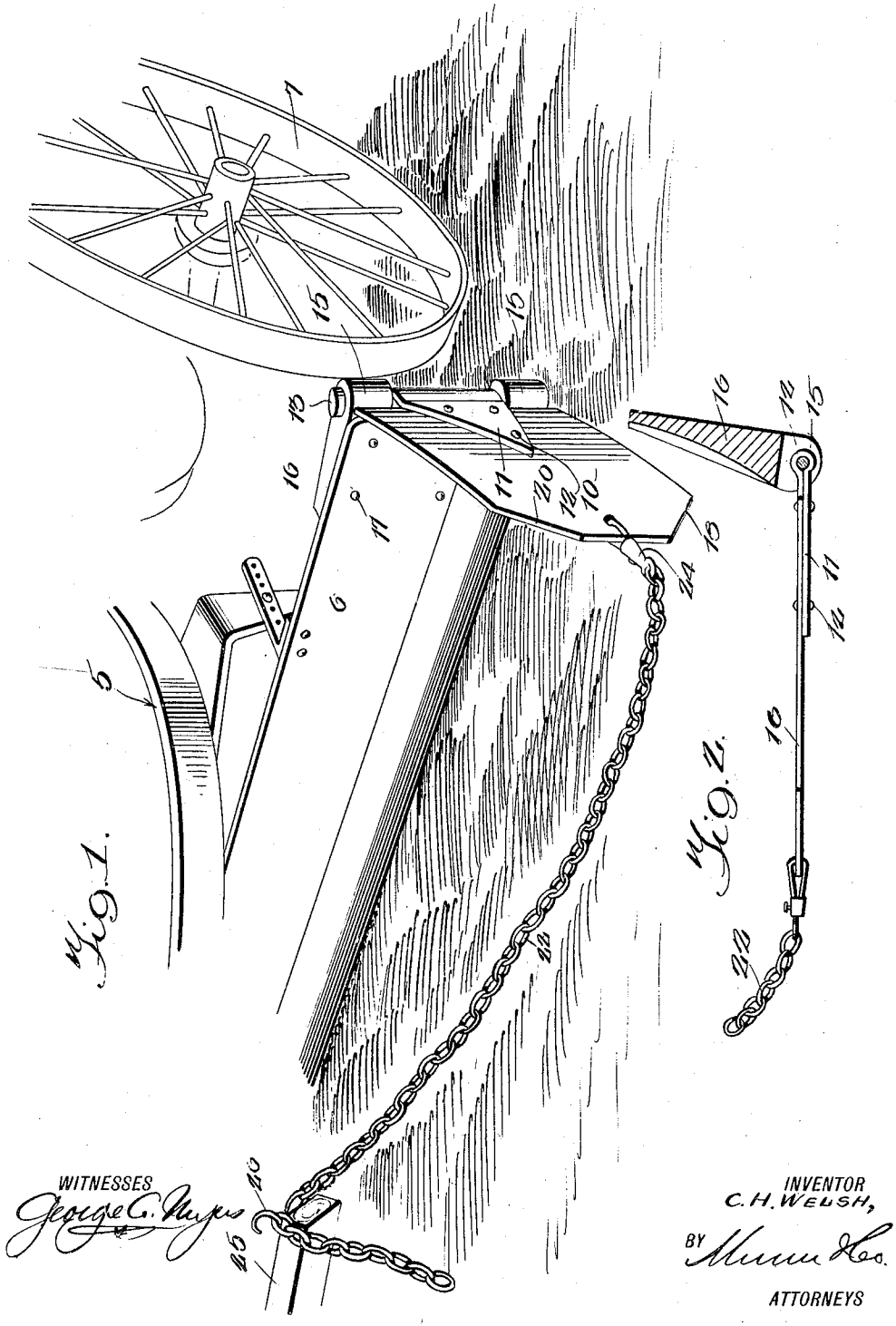


Fig. 1.

Fig. 2.

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

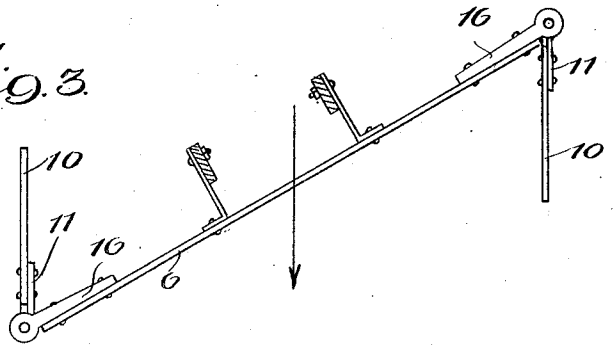


Fig. 4.

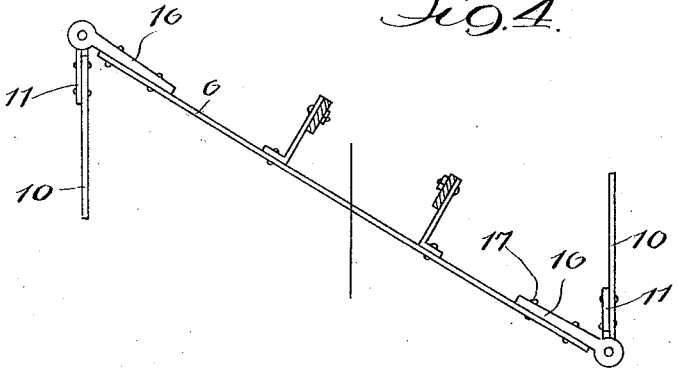
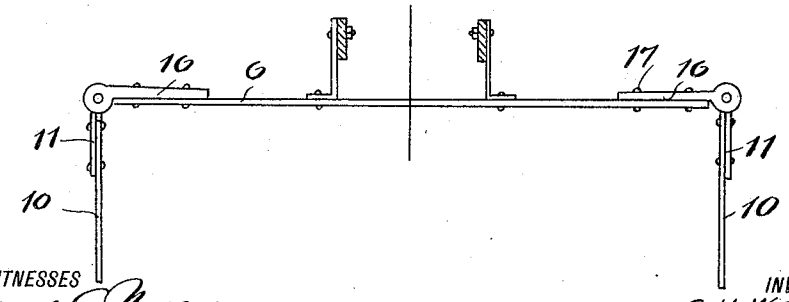


Fig. 5.



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UNITED STATES PATENT OFFICE.

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ROAD GRADER.

1,425,303. Specification of Letters Patent. Patented Aug. 8, 1922.

Application filed July 13, 1921. Serial No. 484,363.

To all whom it may concern:

Be it known that I, CHARLEY H. WELSH, a citizen of the United States, and a resident of Norman Township, in the county of Grundy and State of Illinois, have invented certain new and useful Improvements in Road Graders, of which the following is a specification.

This invention relates to improvements in road graders and more particularly to the means for collecting and distributing the dirt.

An important object of this invention is to provide a road grader wherein the main blade of the same is provided at its ends with hinged wings or extension blades which are positioned for the purpose of picking up a quantity of dirt for filling the low places in the road and for leveling roads.

A further object is to provide a road grader having its blade provided with wings which may be readily and conveniently adjusted as the occasion requires for varying the quantity of dirt moved by the blade.

A further object of the invention is to provide a road grader blade which is of simplified construction, simple to operate and cheap to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application, and wherein like numerals are employed to designate like parts throughout the same,

Figure 1 is a fragmentary perspective of a road grader constructed in accordance with this invention, the view illustrating a portion of the scraping blade and one of the wings,

Figure 2 is a plan view of the improved wing, the attaching plate of the same being shown in section, and

Figures 3, 4 and 5 are plan views of the blade and wings of the same, the views illustrating the various positions assumed by the wings.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 5 generally designates a grader which is provided with an adjustable blade 6 capable of assuming any of the positions illustrated in Figures 3, 4 and 5. The grader may be of standard construction and the means for adjusting the blade 6 may be of any desired type. The grader may be propelled by any suitable means and it is mounted upon wheels 7.

The invention forming the subject matter of this application is in the nature of wings arranged at the ends of the blade so that as the blade moves forwardly a quantity of dirt will be picked up to be employed for filling holes in the direction of travel. Also, when grading roads, the wings may be employed to pick up the dirt at the top of a hill and subsequently deposit the dirt at the bottom of the hill, thereby leveling the road.

Specifically, a wing 10 is arranged at each end of the blade and is provided with a triangular terminal portion 11 bent upon the body of the wing and secured thereto by rivets or other fastening devices 12. By bending the terminal portion 11 upon the body of the wing 10, a hinge barrel 12 is formed, which hinge barrel receives a hinge pin designated by the numeral 13. The hinge pin 13 is passed through a pair of alined hinge barrels 15 formed at one end of an attaching plate 16. The attaching plate 16 is secured to the rear side of the blade by means of rivets or suitable fastening devices 17 and has its contact surface slightly concaved, as illustrated in Figure 3. It is thus seen that a pair of the wings 10 may be readily and conveniently attached to a blade of a standard grader without altering the construction of the grader or without excessive effort on the part of the operator. The hinge barrels 15 have their outer sides rounded and are engaged by the rear ends of the wings 10 so as to brace the wings as the same engage the dirt during travel. The lower longitudinal edge of each blade is inclined upwardly as indicated at 18 so that when the same engages hard projections in the road, the wings will be elevated and will thereby ride over the projection. Also, the upper edge of the wing 10 may be beveled at its forward end as indicated at 20, so that the excess dirt picked up by the wings and blade will ride over the top of the wings. It is understood of course, that the wings may be made of any desired strength or thickness without departing from the spirit of the invention.

The wings 10 may be separately and independently adjusted with relation to the blades by means of chains 22 secured to the forward ends of the wings by hooks 24 and connected to a suitable part 25 of the grader,

as indicated at 26. The attaching member 26 may be in the nature of a hook and is engaged by one of the links of each chain. It is thus seen that the wings 10 may be adjusted angularly with relation to the blade, by engaging the proper link of the chain 22 with the hook 26.

In operation, the wings may be positioned as illustrated in Figure 3, in which case one of the wings is shown in its inoperative position while the other is shown as being directed forwardly so as to cooperate with the blade in collecting a quantity of dirt for subsequent deposit in a low place in the road.

Or, if desired, the blade and the wings may be positioned as illustrated in Figure 4, wherein the blade is shown arranged at an angle to the path of travel of the machine with one of the wings extended forwardly and the other extended rearwardly. When the blade and the wings are thus positioned, a quantity of dirt is collected by one of the wings and the blade for removal to a point in the road to be filled.

Further, both of the wings may be extended forwardly as illustrated in Figure 5, in which case, dirt is collected by both of the wings and the blade. In this case, the grader is operated for leveling the road and the dirt is collected at the top of a hill and deposited at the bottom of the hill, in the usual manner.

With reference to the foregoing description, taken in connection with the accompanying drawing, it will be apparent that a road grader attachment constructed in accordance with this invention will effectively cooperate with the scraping blade in collecting the dirt and subsequently depositing the same in a low place in the road.

I claim:—

1. An attachment for road graders comprising an attaching plate adapted to be secured to the scraping blade of the grader and having a pair of alined hinge barrels, a wing having a triangular portion bent upon itself and secured to the wing, whereby to form a hinge barrel alined with said first and second named hinge barrels, and a hinge pin passed through said first and second named hinge barrels.

2. An attachment for road graders comprising an attaching plate adapted to be secured to the scraping blade of the grader and having a pair of alined hinge barrels, a wing having a triangular portion bent upon itself and secured to the wing, whereby to form a hinge barrel alined with said first and second named hinge barrels, a hinge pin passed through said first and second named hinge barrels, and means whereby said wing may be adjusted with relation to the blade to which it is attached.

3. An attachment for road graders comprising an attaching plate adapted to be secured to the scraping blade of the grader and having a pair of alined hinge barrels, a wing having a triangular portion bent upon itself and secured to the wing, whereby to form a hinge barrel alined with said first and second named hinge barrels, a hinge pin passed through said first and second named hinge barrels, and means whereby said wing may be adjusted with relation to the blade to which it is attached, the lower edge of said wing being beveled.

CHARLEY H. WELSH.