Dec. 10, 1929. A. J. FALLERT 1,738,880

ROAD GRADER ATTACHMENT

Filed May 18, 1928 2 Sheets-Sheet 1

Fig. 1.

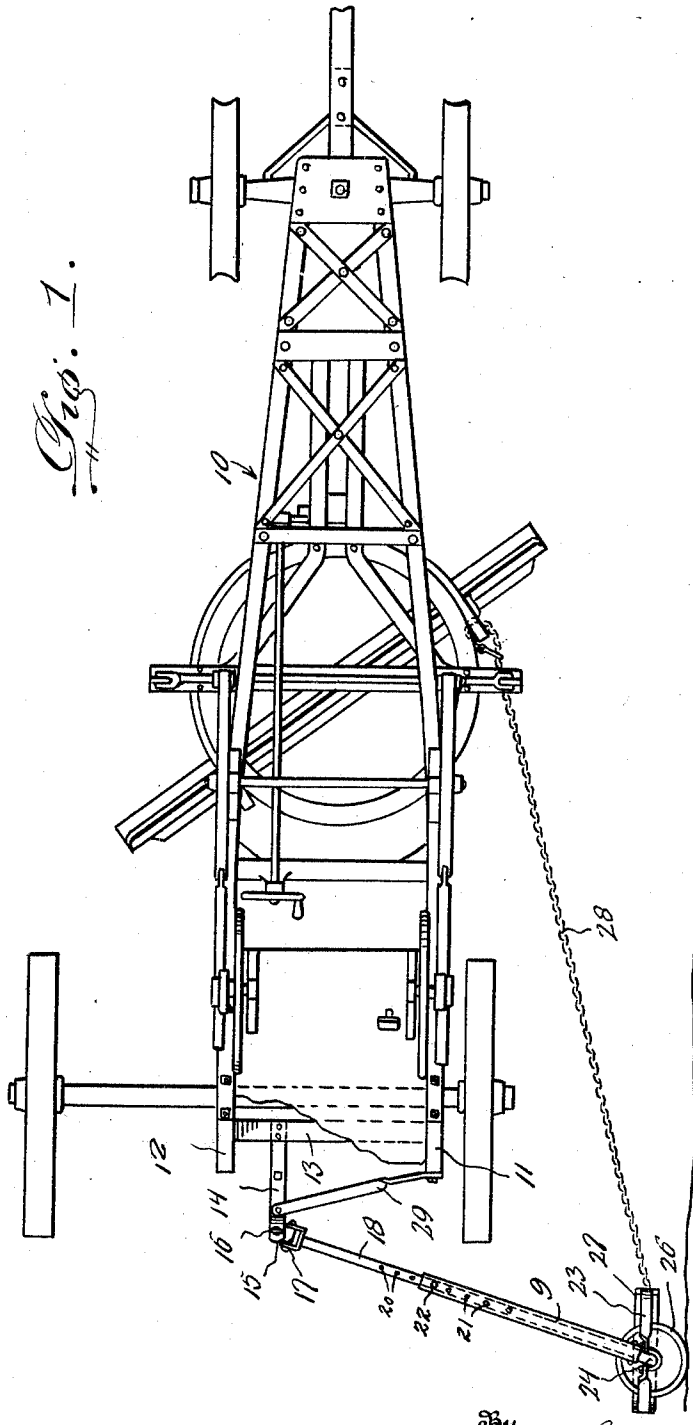
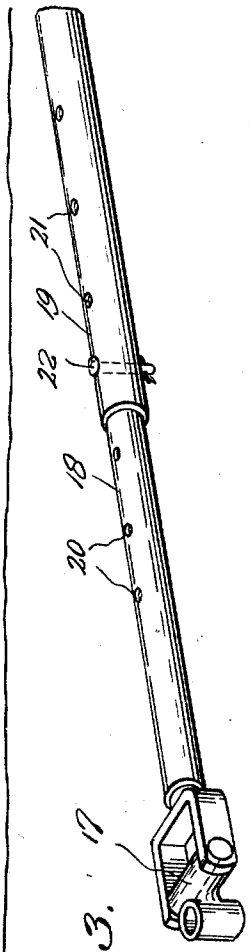


Fig. 3.



Inventor
A. J. Fallert,

By J. Stanley Burch
Attorney

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Fig. 5.

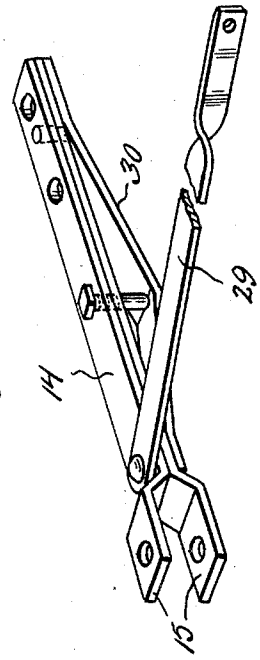


Fig. 4.

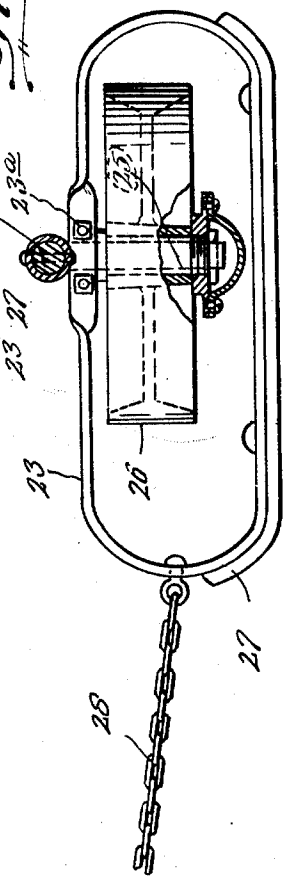
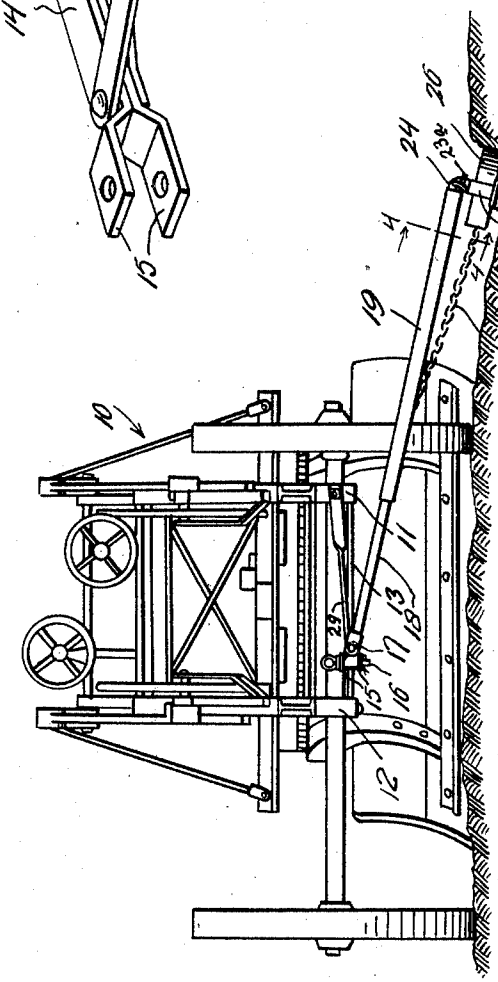


Fig. 2.



Inventor

A. J. Fallert,

By J. Stanley Bruch

Attorney

Patented Dec. 10, 1929 1,738,880

UNITED STATES PATENT OFFICE

AUGUST J. FALLERT, OF AKRON, COLORADO

ROAD-GRADER ATTACHMENT

Application filed May 18, 1928. Serial No. 278,735.

This invention relates to road working machinery, such as a grader and ditcher, and has particular reference to a device adapted for attachment to a road working machine for preventing the same from being displaced sidewise while the scraper blade or the like is operating on a roadbed.

In various types of road scrapers or graders, where the blade is set diagonal with respect to the direction of travel of the road machine, the resistance encountered by the scraper or blade forces the machine laterally or causes sidewise skidding.

It is an object of this invention to provide novel and extremely efficient means for bracing the machine against the aforesaid sidewise skidding or lateral displacement when the machine is in operation.

A further object is to provide an improved device of the kind mentioned above which may be utilized in connection with road working machines now in common use or installed on new machines as equipment for accomplishing the result stated.

A still further object is to provide a device of the above kind which will afford a minimum resistance to the forward movement of the road working machine.

Other objects will appear as the nature of the invention is better understood, and the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and claimed.

In the drawings:

Figure 1 is a plan view of a conventional form of road working machine having an attachment, embodying the present invention, applied thereto.

Figure 2 is a rear elevational view of the construction shown in Figure 1, the roadbed being in transverse section to illustrate the operation of the present invention.

Figure 3 is a fragmentary detail view of the telescopic brace bar or prop.

Figure 4 is a sectional view on line 4—4 of Figure 2; and

Figure 5 is an enlarged perspective view, partly broken away, showing the supporting bracket for the brace bar or prop.

Referring more in detail to the drawings, a conventional type of road working machine is illustrated in Figures 1 and 2, the machine being equipped with an attachment for performing the functions mentioned above.

In the embodiment of the invention illustrated, the road working machine 10 is provided with a frame consisting of side members 11 and 12 located at the rear of the machine and held in place by a brace 13, all of which are mounted on the rear axle of the road working machine.

A bracket 14 is anchored to the brace 13, and said bracket extends rearwardly of the machine. The bracket is preferably composed of a pair of bars bolted to the brace member 13 at their forward ends and having spaced rear arms 15 apertured to receive the pin 16 of a universal joint 17 which is attached to a sectional prop or brace bar intended to prevent lateral movement of the grading machine, as will presently become apparent.

In order to adapt the device to roads of different widths, the prop or brace bar, has sections telescopically arranged with relation to one another, and in order to produce a prop or brace of sufficient strength to withstand the strain incident to its use, the said brace preferably comprises two tubular members 18 and 19 which have apertures 20 and 21 to receive a pin 22 by which the outer member 19 of the brace bar or prop is held at different positions of adjustment. The telescopic members have a plurality of the apertures 20 and 21, any pair of which may receive the pin 22, and by this means, the lateral brace bar or prop may be increased or reduced in length in order that it may extend to proper position with relation to the side of the road, or the ditch thereof.

A ground-engaging runner is rigidly mounted at the outer end of the brace bar, and to that end, an open runner-carrying frame 23 is rigidly secured to the outer end of the outer member of the brace bar. An angular rod 24 has one arm secured in the outer end of the outer brace bar member 19 so that its other arm depends and forms a

pintle 25 on which the bank-engaging wheel 26 is rotatably mounted.

A ground-engaging runner or shoe 27 is secured to the bottom of the frame 23 by rivets or the like, and the said runner has upwardly curved ends for readily riding over obstructions or irregularities of the ground surface. The runner frame is connected at its forward end to a stationary part of the road grading machine such as the scraper thereof, by means of a cable or chain 28, and this serves to hold the runner at different positions of adjustment according to the requirements in practice. When the telescopic brace bar or prop is adjusted as shown in Figure 1, the runner will engage the ground and support the wheel 26 in position above the ground to engage and roll along the side of the bank of the road for counteracting the tendency of the grader to slide laterally. As the runner sustains the brace bar or prop at the required elevation with respect to its outer end, and has no frictional engagement with the side of the ditch, the wheel 26 will permit forward travel of the road working machine with a minimum resistance. Moreover, the construction eliminates the necessity for any overhead suspension means for holding the outer end of the brace bar or prop at the required elevation. Obviously, by lengthening or shortening the cable or chain 28, the brace bar or prop may be adjusted forwardly or rearwardly to change its angular relation to the line of travel of the road working machine, so that most efficient results may be obtained under various conditions of use. The universal joint 17 readily permits this adjustment of the brace bar or prop and also permits free vertical swinging thereof as occurs when the runner 27 rides over obstructions or inequalities in the ground surface.

As shown clearly in Figure 6, the upper member of the runner-carrying frame 23 is rigidly attached to the depending arm of the angular rod 24 by means of a U bolt 23^a, or the like. The point of attachment is centrally between the ends of the runner-carrying frame so that the latter encircles the bank-engaging wheel 26 to provide a durable and compact construction and allow for mounting of the wheel directly in line with the longitudinal axis of the telescopic brace bar or prop.

In order to relieve the bracket 13 of lateral strains, the outer end thereof is connected to the frame member 11 by means of a diagonal brace rod 29, while the bracket 14 is rendered strong and durable by providing a truss brace 30 on the bottom thereof.

When the grader is to be moved without operating, the device for carrying the runner may be supported clear of the ground by attaching the chain 28 to the top of the grader frame.

It is intended that the wheel 26 will engage the bank, side of the ditch, or deposit at the side of the roadway, as clearly shown in Figure 2, such bank or the like thus constituting an abutment to resist movement of the wheel 26 in a direction transversely of that in which the road machine is traveling.

Minor changes may be made without departing from the spirit and scope of the invention as claimed.

What I claim as new is:

1. In a road working machine having a laterally extending brace bar, a wheel journaled on the outer end of the brace bar for engaging a bank at the side of the road for preventing movement of the machine transversely, and a runner carried by the brace bar inwardly of the outer portion of said wheel adapted for engagement with the ground to support the wheel at an elevated position.

2. In a road working machine, a brace bar comprising tubular telescopically assembled members having means for securing said members at different positions of adjustment, means for connecting an end of the brace bar to the machine for vertical and horizontal swinging movement with the brace bar extending transversely of the machine, a bank-engaging wheel journaled on the outer end of said brace bar, a ground-engaging runner mounted on the outer end of the brace bar, and an open frame encircling the bank-engaging wheel and carrying said runner.

3. In a road working machine, a brace bar comprising tubular telescopically assembled members having means for securing said members at different positions of adjustment, means for connecting an end of the brace bar to the machine for vertical and horizontal swinging movement with the brace bar extending transversely of the machine, a bank-engaging wheel journaled on the outer end of said brace bar, a ground-engaging runner mounted on the outer end of the brace bar, and an open frame encircling the bank-engaging wheel and carrying said runner, an angular rod having one end secured in the outer member of the brace bar and provided with a depending arm on which the bank-engaging wheel is journaled, the top of the runner-carrying frame being secured to the depending arm of said angular rod above the bank-engaging wheel.

In testimony whereof I affix my signature.

AUGUST J. FALLERT.