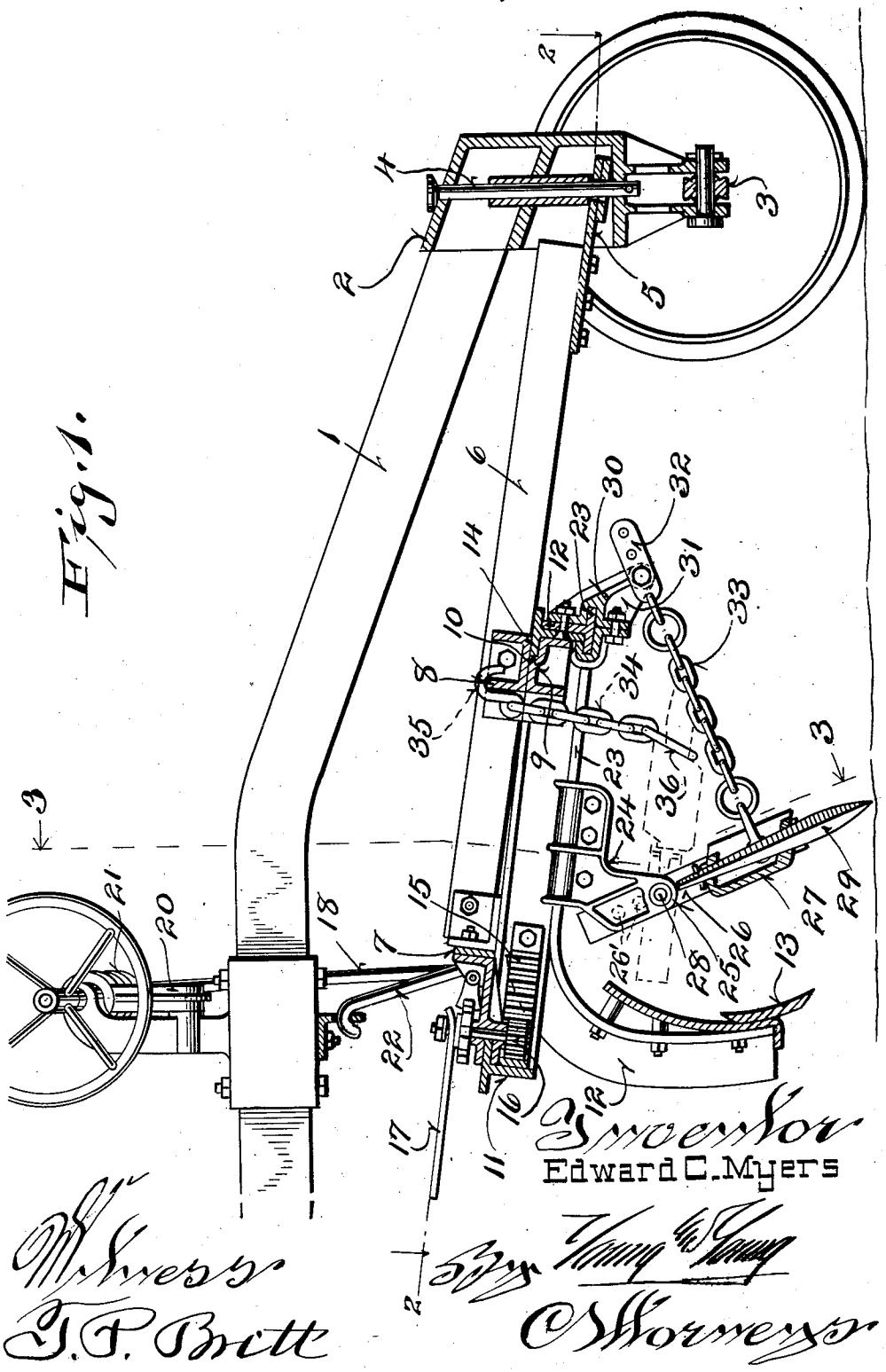
July 14, 1925. 1,546,019

E. C. MYERS

SCARIFIER ATTACHMENT FOR GRADERS

Filed Dec. 13, 1923 3 Sheets-Sheet 1



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SCARIFIER ATTACHMENT FOR GRADERS

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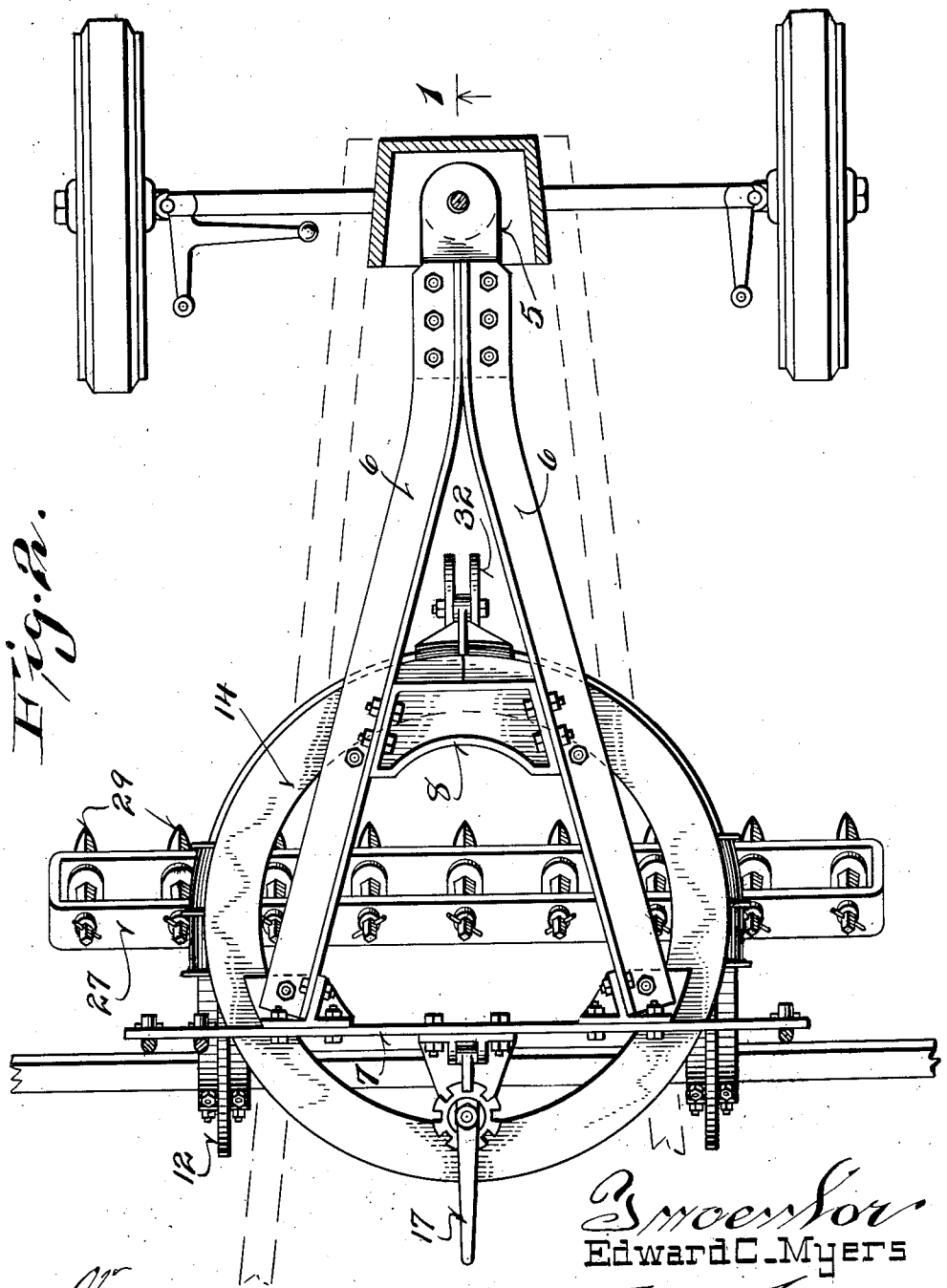


Fig. 2.

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3 Sheets-Sheet 3

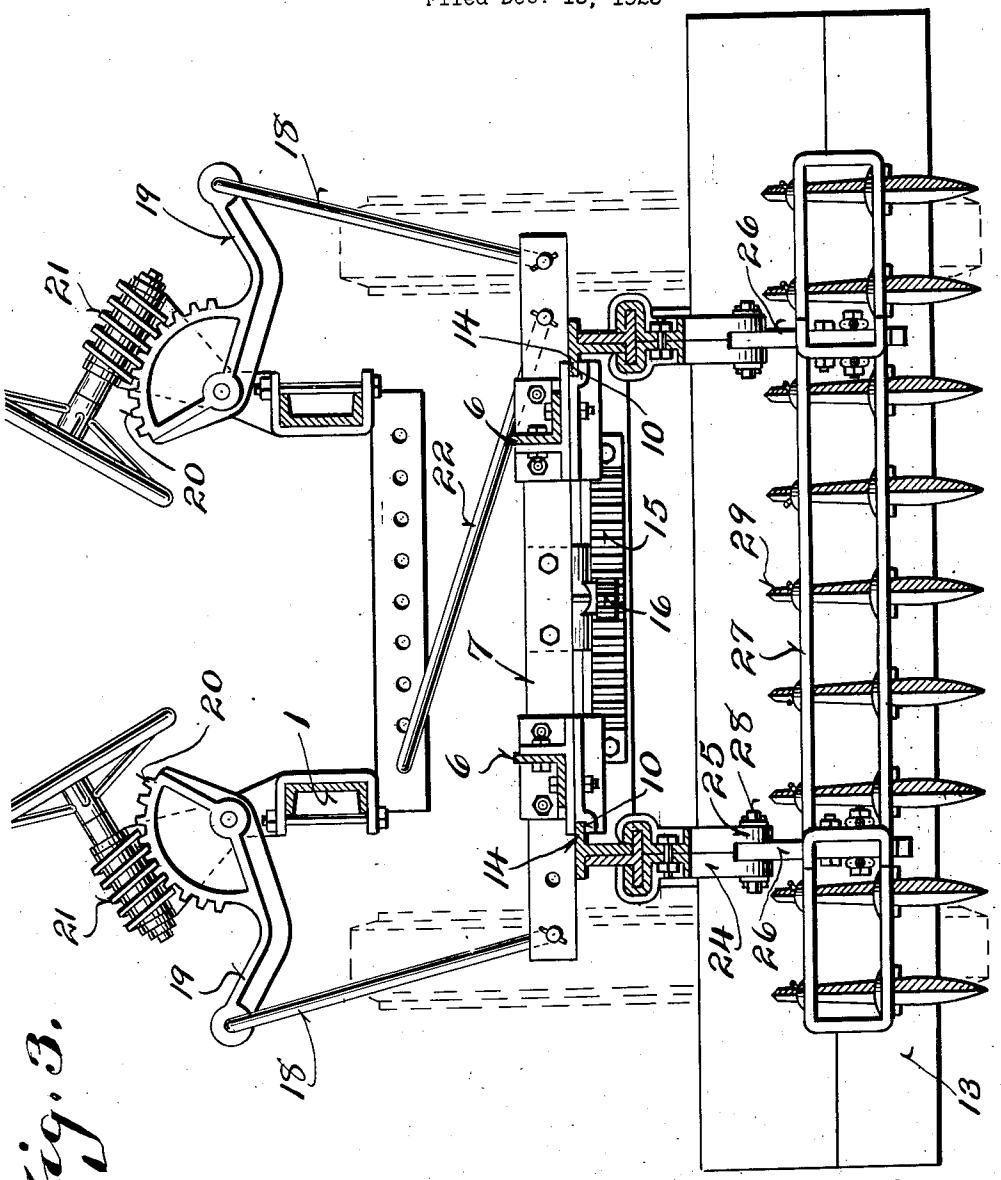


Fig. 3.

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UNITED STATES PATENT OFFICE.

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SCARIFIER ATTACHMENT FOR GRADERS.

Application filed December 13, 1923. Serial No. 680,412.

To all whom it may concern:

Be it known that I, EDWARD C. MYERS, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Scarifier Attachments for Graders; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to scarifiers.

Objects of this invention are to provide a scarifier attachment for standard graders which may be applied to the grader without requiring any alteration whatsoever therein and which is rigidly and positively held against stresses encountered in operation.

In graders of certain standard makes it is customary to provide a blade which is carried by a vertically adjustable framework, and in which the blade support is rotatably held in a guide carried by this framework so that the blade is capable of both vertical and angular adjustment.

Further objects are to provide a scarifier attachment as a separate and distinct entity which is secured detachably to the support of the blade of the grader, which moves with such blade so as to give the scarifier both angular and vertical adjustment, to provide a scarifier which has vertical and annular adjustment independently of the blade, and to provide a scarifier which may be easily moved into operative or inoperative position.

An embodiment of the invention is shown in the accompanying drawings, in which:—

Figure 1 is a vertical section of the front portion of a grader with the scarifier shown in operative position in full lines, and in inoperative position in dotted lines, such section being taken on the line 1—1 of Figure 2.

Figure 2 is a horizontal sectional view of the structure shown in Figure 1, as indicated by the line 2—2 of Figure 1.

Figure 3 is a transverse sectional view on the line 3—3 of Figure 1.

The grader may comprise a power driven machine whose side bars 1 extend in a converging manner to the front casting 2 thereof. This front casting supports the front axle 3, as shown in Figure 1, and is provided with a vertical pin 4. Upon this vertical pin the forward end plate 5 of a frame composed of converging bars 6 and a transverse rear bar 7 (see Figures 1 and 2) is loosely pivotally mounted. If desired, a transverse brace 8 may be provided intermediate the ends of the bars 6 and rigidly bolted thereto. A guide 9 provided with an inwardly extending circular slot 10 is rigidly secured to the frame 6. A blade supporting structure comprising an annular member 11 of T-shaped formation is provided and rigidly carries the curved arms 12 to which the blade 13 is attached. This support 11 is T-shaped, as stated, and one of the flanges 14 of such T projects into the slot 10, as shown in Figure 1, thus providing for angular adjustment of the blade 13 with reference to the center line of the machine by permitting the support 14 to revolve about the guide 9. A short portion of a curved rack 15 is bolted to the inner side of the support 11 and meshes with a pinion 16 operated in any suitable manner as by means of a hand lever 17 provided with any suitable mechanism to hold it in adjusted position.

The rear bar 7 of the supporting frame is carried by a pair of rods 18 which are pivotally joined to the outer ends of bar 7 and are carried by arms 19 of segmental gears 20, such gears meshing with manually operable worms 21, as shown in Figure 3, so that the height of the frame may be adjusted and consequently the height of the blade. If desired, a link 22 may connect the rear bar 7 of the frame with a relatively stationary portion of the grader, as shown in Figure 3, to hold such frame against lateral motion while permitting vertical adjustment.

It is to be noted that the support 11 which is revolubly carried by the adjustable frame is provided with the curved arms 12 for the blade, as previously described, and that these curved arms are provided with laterally projecting flanges 23. Further than this, these arms extend around the support 11 and form a portion thereof, as may be seen from Figure 1, so that the frame 11 is composed of the annular member and the curved arm which are rigidly bolted thereto and form a unitary structure therewith. A pair of twopart brackets 24 are provided with hooked upper ends suitably webbed and reinforced, which grip around the flanges 23 of the support, the two parts of each bracket being securely bolted together to thus lock the brackets upon the support.

These brackets are provided upon their lower ends with downwardly extending lugs 25 between which the upwardly projecting arms 26 of the scarifier 27 are positioned. These arms 26 are pivotally held between the lugs 25 by means of bolts 28. It is to be noted that such arms are provided with a plurality of apertures 26, as shown in Figure 1, so that the scarifier may be given vertical adjustment with reference to the blade 13 and the support therefor. The scarifier is provided with a plurality of removable teeth or prongs 29. A bracket 30 of two piece, web construction, as indicated in Figure 1, is clamped about the forward portion of the support for the blade and grips the flange 23 within its jaw-like portions. This bracket is provided with a forwardly extending apertured arm 31. A pair of members 32 are bolted to this arm 31, as shown in Figures 1 and 2, and such members are connected by means of chains 33 with the scarifier. These members 32 are provided with a plurality of apertures to secure angular adjustment of the scarifier.

An auxiliary chain 34, as shown in dotted lines in Figure 1, is provided with an upper hook 35 which is hooked over the brace 8 and with a lower ring 36 which may be slipped over any one of the prongs of the scarifier, as shown in dotted lines in Figure 1, to hold such scarifier temporarily in inoperative position.

It will thus be seen that a scarifier attachment has been provided which may be secured to a standard type of grader without requiring any change in the grader construction, which will move with the blade and blade support, and which is both vertically and angularly adjustable with reference both to said support and said blade.

Although the invention has been described in considerable detail, it is to be understood that the invention may be variously embodied and is, therefore, to be limited only as claimed.

I claim:

1. The combination of a grader having a blade and an adjustable flanged support therefor adapted to move with said blade and a scarifier comprising brackets detachably clamping around the flange of said support and adapted to move with said support, and a scarifying tool carried by said brackets.

2. The combination of a grader having a blade and an adjustable support therefor adapted to move with said blade, said support having a flange, and a scarifier comprising brackets adapted to grip around said flange, a scarifying tool movably held by said brackets, and means for holding said tool in adjusted position.

3. The combination of a grader having a blade and a rotatable and vertically adjustable support therefor adapted to move with said blade, and a scarifier comprising a plurality of members adapted to rigidly engage said support and to move therewith, a scarifying tool pivotally and adjustably held by said members, and a flexible member attached to said tool and to a portion of said support spaced from said first mentioned members for holding said tool in operative position.

4. The combination of a grader having a blade, a support therefor comprising a vertically adjustable frame, a guide carried by said frame, a support for said blade rotatably held by said guide, a set of brackets detachably attached to said support for said blade, a scarifier pivotally supported by said brackets and adapted to occupy both an operative and inoperative position, a bracket detachably attached to said support for said blade at a point spaced from said set of brackets, and a member connecting said last recited bracket and said scarifier.

5. The combination of a grader having a blade, a support therefor comprising a vertically adjustable frame, a guide carried by said frame, a support for said blade rotatably held by said guide, a set of brackets detachably attached to said support for said blade, a scarifier pivotally and adjustably supported by said brackets and adapted to occupy both an operative and inoperative position, a bracket detachably attached to said support for said blade at a point spaced from said set of brackets, and a member adjustably connecting said last recited bracket and said scarifier.

6. The combination of a grader having a blade, a support therefor comprising a vertically adjustable frame, a guide carried by said frame, a blade support rotatably held by said guide, a set of brackets detachably attached to said blade support, a scarifier attached to said brackets by a pivotal joint permitting vertical adjustment of said scarifier with reference to said brackets and adapted to occupy both an operative and an inoperative position, a bracket detachably attached to said blade support at a point spaced from said set of brackets, and a flexible member adjustably connecting said last recited bracket and said scarifier.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

EDWARD C. MYERS.