Aug. 16, 1932. L. T. DUESBERG 1,871,503

CLEANER FOR ROLLERS OF ELEVATING GRADERS

Filed Dec. 8, 1931 2 Sheets-Sheet 1

Fig. 1.

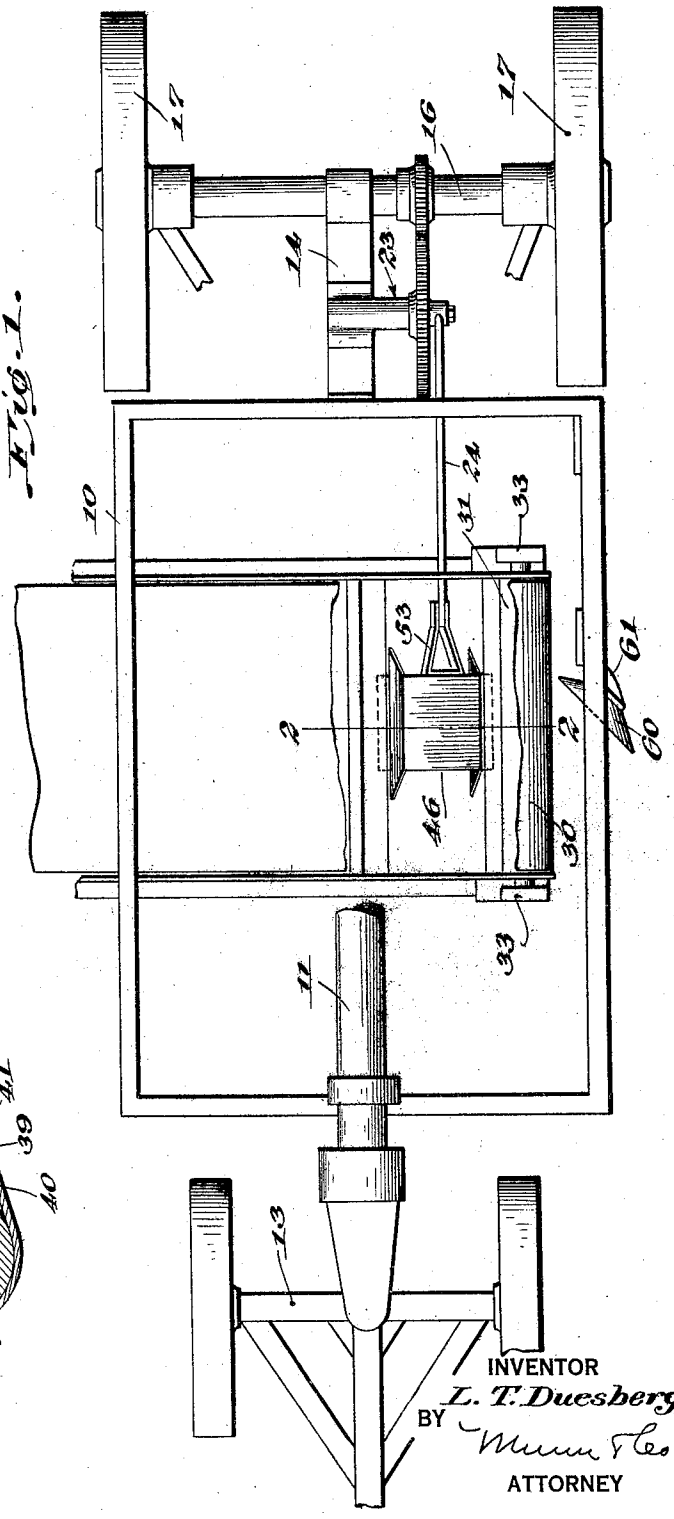
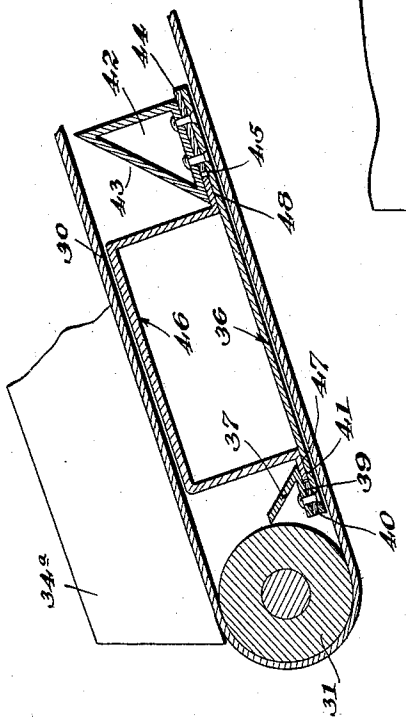


Fig. 2.

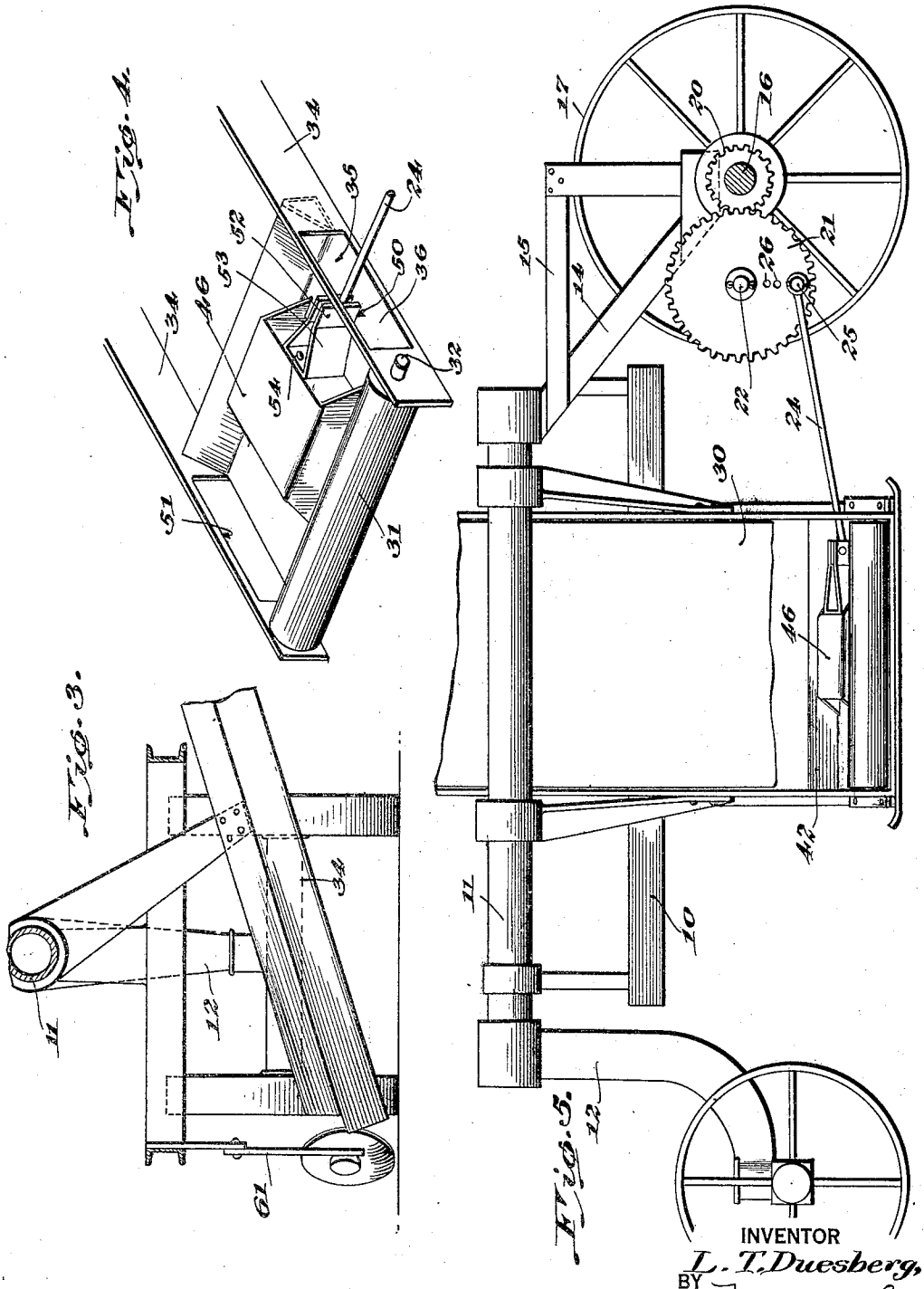


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CLEANER FOR ROLLERS OF ELEVATING GRADERS

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UNITED STATES PATENT OFFICE

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CLEANER FOR ROLLERS OF ELEVATING GRADERS

Application filed December 8, 1931. Serial No. 579,812.

This invention relates to a cleaner for a roller for elevating graders.

An object of the invention is the provision of a scraper adapted to remove dirt from a foot roller of an elevating grader with the dirt being received in a dust pan, the dirt being automatically removed by a device reciprocated from a moving part of the vehicle.

A further object of the invention is the provision of a device for removing dirt from the foot roller of an elevating grader in order to maintain the belt trained on said roller in its proper position, the dirt being discharged into a dust pan and removed by an automatically driven plunger held in guides in the dust pan.

With the preceding and other objects and advantages in mind, the invention consists in the novel combination of elements, constructions and arrangements of parts and operations to be hereinafter more fully described, claimed and illustrated in the accompanying drawings, wherein:

Figure 1 is a plan view of an elevating grader with parts broken away disclosing my invention applied thereto;

Fig. 2 is an enlarged transverse vertical section taken along the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary end view partly in section showing the traveling conveyor;

Fig. 4 is a view in perspective of a foot roller in operative relation with a dust pan and cleaner; and

Fig. 5 is a fragmentary side view showing my invention applied to the grader.

Referring more particularly to the drawings 10 designates the frame work of an elevating grader supported from a longitudinal bar 11 of circular cross section and this bar is supported by a depending member 12 connected with the front axle 13. A member 14 depending from the rear end of the bar 11 in connection with brace bars 15 is supported by an axle 16 upon which are mounted wheels 17. The axle is rigidly secured to the wheels 17 so that said axle is thereby revolved.

A spur gear 20 is secured to the axle 16 and meshes with a gear 21 mounted loosely on a shaft 22 carried by a bearing 23 depending from the member 14. A rod 24 is connected with an eccentric pin 25 carried by the gear 21. It will be noted that the gear 21 has a plurality of passages 26 in radial alinement which are adapted to receive the eccentric pin 25 for increasing or decreasing the length of the path of movement of the rod 24 as will be presently explained. A travelling carrier 30 is trained over a foot roller 31 which is formed of steel and has trunnions 32 supported in bearings 33 at the lower end of the tractor. The trunnions are carried by plates 34 which have their upper edges adjacent the travelling carrier 30 and these plates act as a support for the travelling carrier. The belt 30 is driven in any approved manner, not shown.

A dust pan 35 in the form of a channel extends transversely between the sections of the travelling carrier 30 and adjacent the foot roller 31. This dust pan is provided with a base member 36 and an inclined scraper blade 37 forming one side wall of the dust pan adjacent the roller 31. This blade has an edge which is in engagement with the roller 31 at points between the sections of the travelling carrier 30. It will be noted from Figure 2 that the blade has a lateral flange 39 which is spaced from the floor 36 of the dust pan by means of a spacing bar 40. The bar and the flange are secured to the floor to provide a track 41 at the inner edge of the spacer bar 40.

The wall 42 which is triangular in cross section and has an inclined face 43 forming a longitudinal side of the dust pan 35 is spaced from the floor 46 by means of a spacing bar 44. The spacing bar 44 and wall 42 are secured to the floor of the dust pan to provide a track 45 at one edge of the spacing bar 44.

A cleaner generally designated by the numeral 46 is U-shaped in cross section and has a lateral flange 47 received within the track 41. The cleaner likewise has a lateral flange 48 received within the track 45 so that the cleaner may be moved longitudinally of the dust pan and maintained in position by the flanges 47 and 48 and the flange 49 of the scraping blade 37 and the bottom of the wall

42. The opposite ends of the cleaner are closed in order to engage the dirt for forcing the dirt through the openings 50 and 51 formed in the plates 34. The link or rod 24 is connected at 52 to a U-shaped member 53 which is secured at 54 to the cleaner 46. A shovel 60 carried by an arm 61 which is secured to the grader in any approved manner is located at such an angle relative to the roller 31 that it will engage the dirt and force the same upwardly and upon the travelling carrier 30 and the travelling carrier carries the dirt and deposits it in a well known manner.

The operation of my device is as follows: As the elevating grader is carried along the piece of work the plow or shovel 60 forces the dirt upon the lower end of the travelling carrier 30 and this dirt is carried along by the moving carrier to an elevated point. During the operation of the grader dirt finds its way between the sections of the belt 30 and comes in contact with the roller 31 and if this dirt were not removed it would cause uneven places on the foot roller so that the travelling carrier belt would be thrown out of alinement at times and tend to stretch the belt unnecessarily.

The blade 37 which forms one side wall of the dust pan 35 has an edge 38 in contact with the roller at all times so that any dirt tending to collect upon this roller is scraped off and deposited within the dust pan.

Since the member 46 is reciprocated through the gears 20 and 21 and the link 24 it will be moved at all times during the operation of the grader longitudinally of the dust pan and thus continuously removing dirt which has been scraped from the foot roller 31.

Due to the fact that the reciprocating member 46 is held within the tracks 41 and 45 at all times the cleaner 46 will be fixed in a predetermined position transversely of the moving belt 30 and between the sections of said belt or travelling carrier thereby eliminating the dirt which has been removed from the roller 31 in a continuous manner.

In those types of graders where the rear axles are not revolved, a cleaner 46 may be operated by a lever pivotally mounted on the frame and connected with the rod 24 for causing manual reciprocation of the cleaner.

I claim:

In an elevating grader, a foot roller on which an endless traveling carrier is trained, a dust pan disposed adjacent the roller and located between the sections of the carrier, a base member forming the bottom of the pan, an inclined scraper blade having a free edge in close association with the roller and forming one side wall of the pan, said blade being connected to the base member and having a portion spaced from said base member to provide a guide element, the other side wall of the pan being connected to the base member and having a portion spaced from said base member to provide a second guide element, a scraper element having laterally disposed flanges received by the guide elements and slidably mounted in the pan.

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