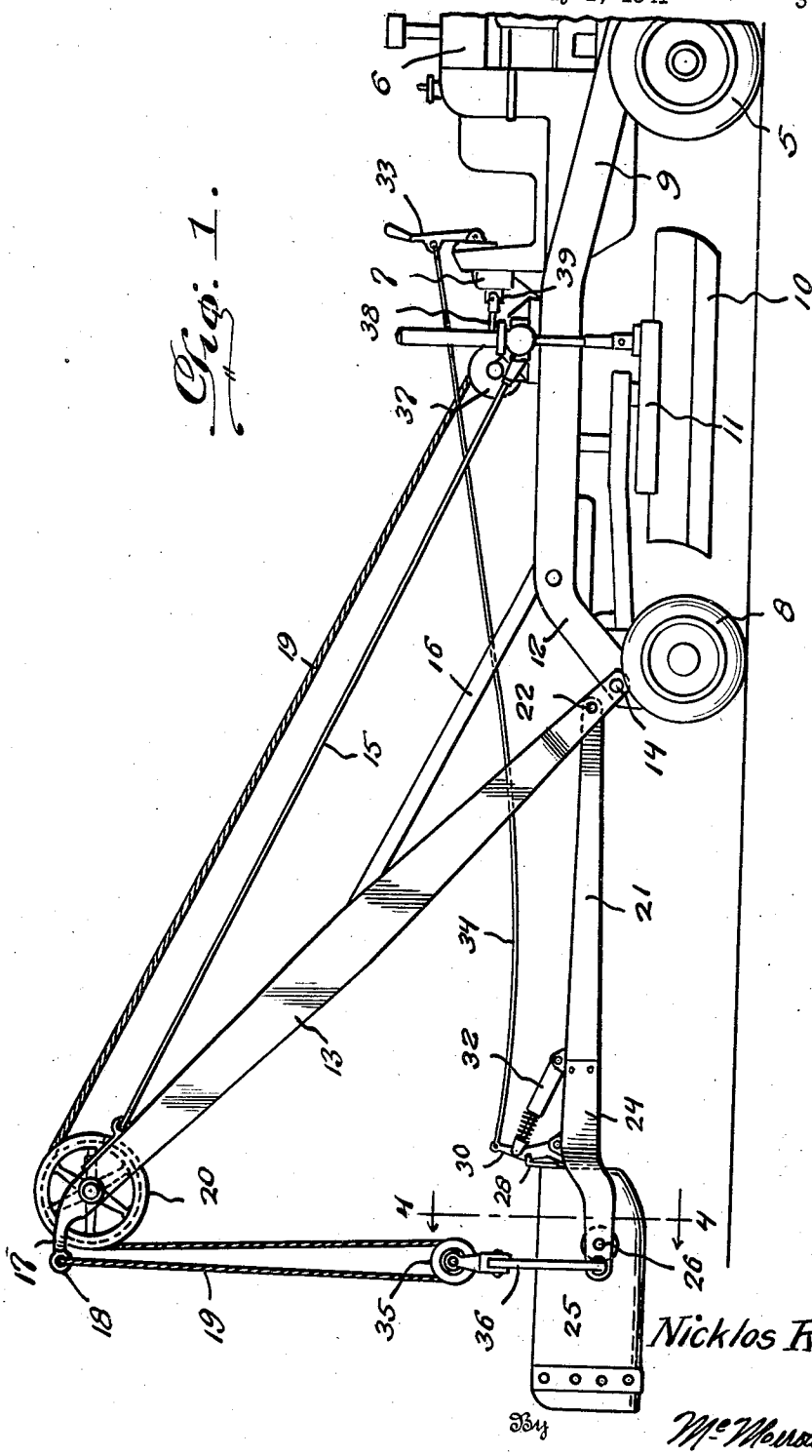
Jan. 13, 1942. N. REPPLINGER 2,269,917

LOADING ATTACHMENT FOR ROAD SCRAPERS

Filed May 1, 1941 3 Sheets-Sheet 1

Fig. 1.



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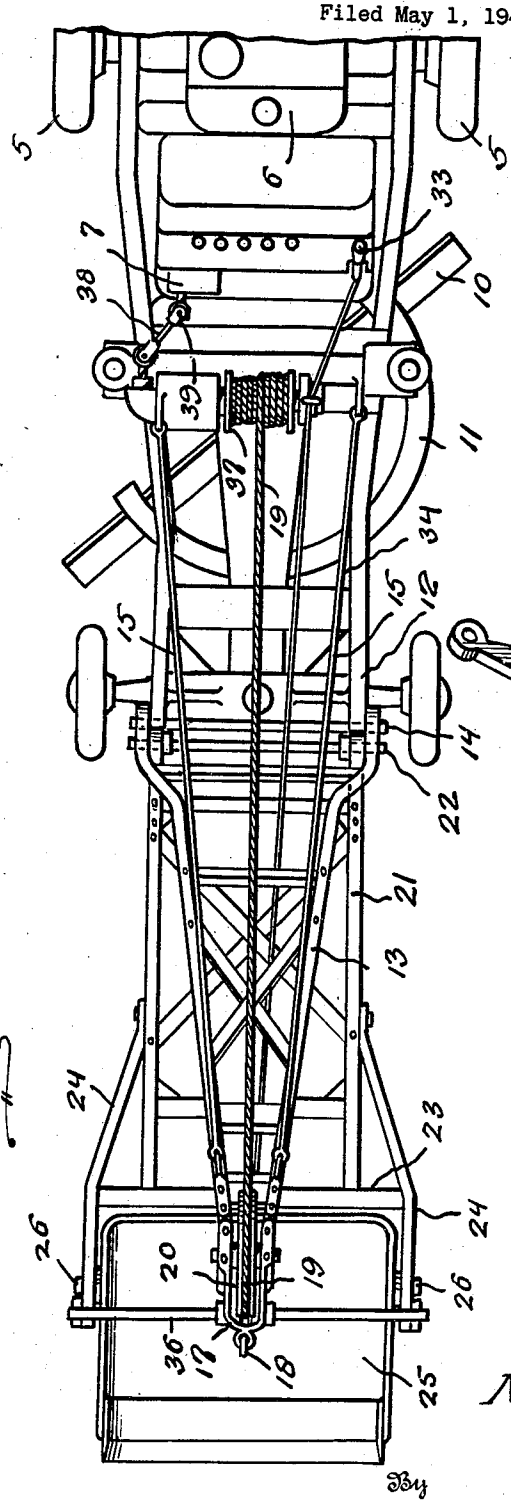

Fig. 2.

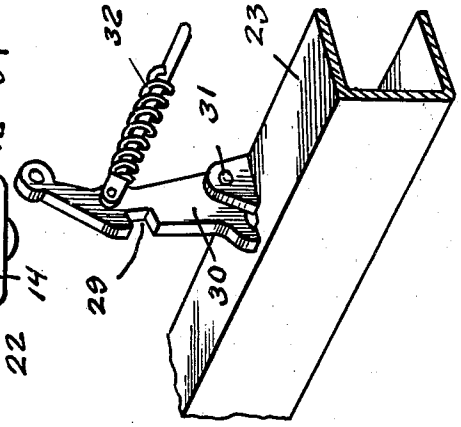

Fig. 3.

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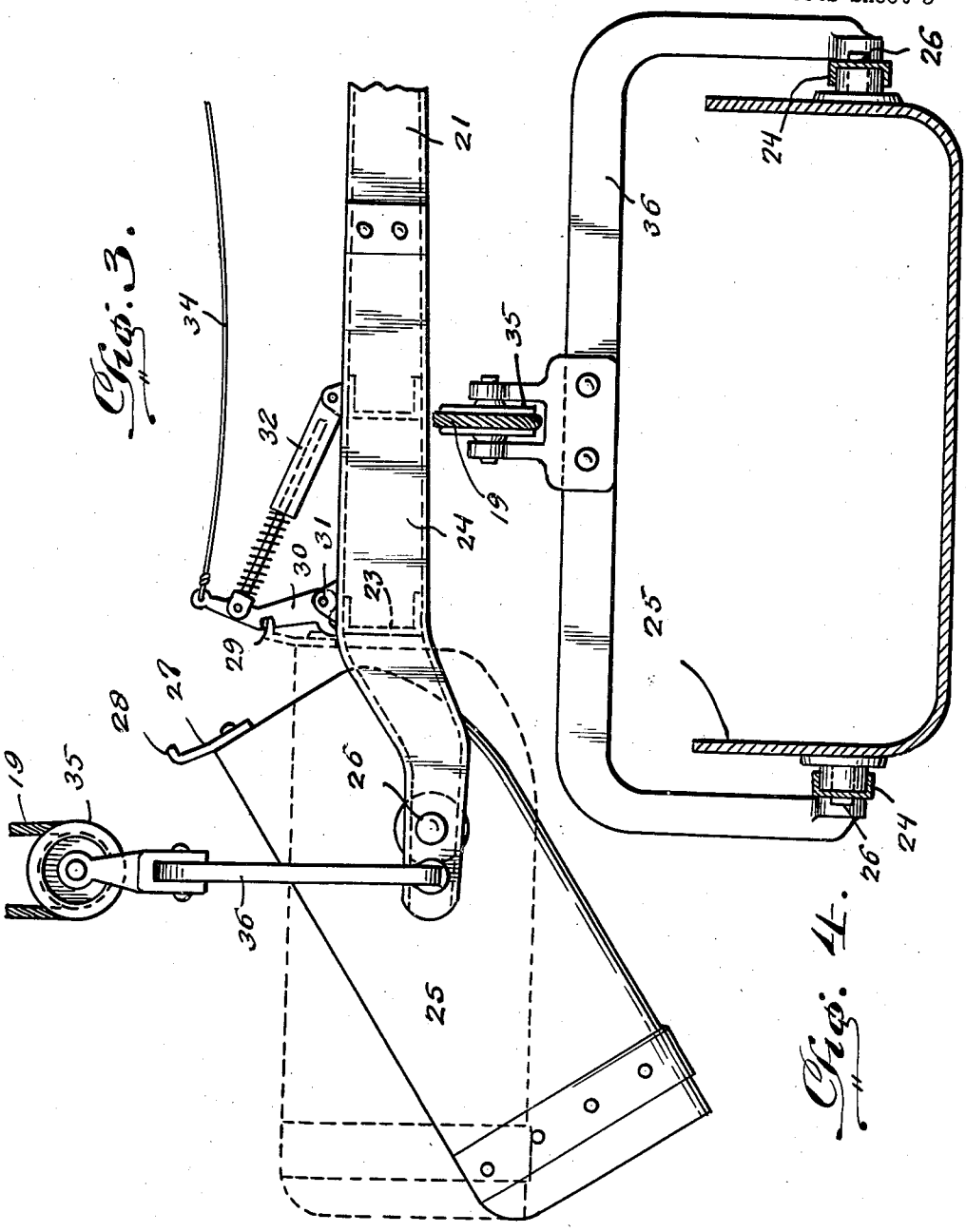

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2,269,917

LOADING ATTACHMENT FOR ROAD SCRAPERS

Nicklos Repplinger, Baker, Mont.

Application May 1, 1941, Serial No. 391,390

1 Claim. (Cl. 214—140)

This invention relates to a loading attachment for road scrapers, and the primary object of the invention is to provide a simple, durable and efficient attachment of this kind having shoveling apparatus adapted to be operated by the power plant of the road scraper and to be controlled by the attendant of the road scraper.

Generally described, the present invention contemplates a loading attachment for road scrapers including a vertically swinging frame and a forwardly and upwardly extending boom mounted on the forward end of the frame of the road scraper, a scoop pivoted to the forward end of the vertically swinging frame so as to tilt by gravity to dumping position when released, manually releasable means to retain the scoop in operative or scooping position, and hoisting mechanism associated with the scoop and the boom and operated by winding mechanism on the road scraper for lowering the scoop to loading position and raising it to dumping position.

The present invention 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 fragmentary side elevational view of a road scraper equipped with a loading attachment constructed in accordance with the present invention;

Figure 2 is a top plan view thereof;

Figure 3 is an enlarged fragmentary side elevational view more clearly illustrating the mounting for the scoop and adjacent parts;

Figure 4 is an enlarged vertical section on line 4—4 of Figure 1; and

Figure 5 is a fragmentary perspective view showing the form and mounting of the catch member forming part of the means for latching the scoop in scooping position.

Referring in detail to the drawings, the present loading attachment is shown applied to a conventional road scraper of the four-wheeled type wherein rear driving and supporting wheels 5 are suitably driven by a power plant 6 which includes a forward gear box 7, and wherein the front supporting wheels 8 are disposed at the forward end of a chassis frame including side frame members 9 that extend forwardly and upwardly from the rear wheels 5 to provide an elevated intermediate portion for the frame beneath which is disposed the scraper blade 10 carried by an arcuate blade support 11. The forward ends of chassis frame members 9 extend forwardly and downwardly toward the front wheels 8 as at 12, and further details of description of this type of road scraper need not be set forth herein.

The present attachment consists of a boom including spaced elongated members 13 rigidly connected in forwardly converging relation and mounted at their rear lower ends upon the forward ends of the side chassis frame members 9 of the road scraper as at 14. This boom is rigidly braced in its stated position by means of a guy member 15 attached at its forward end to the boom 13 near the forward upper end of the latter and at its rear end to the chassis frame 9. The boom is also braced in the desired position by a bracing bar 16 connected at one end to the intermediate portion of the boom 13 and at the other end to the chassis frame of the road scraper. At the forward upper end of the boom 13, the latter is provided with a forwardly projecting horn 17 terminating in an eye 18 to which is attached one end of a hoisting cable 19. Also, for a purpose which will presently become apparent, a relatively large idler pulley 20 is journaled between the boom members 13 near their forward upper ends.

Pivoted to the boom 13 near its lower end is a vertically swinging frame 21 consisting of rigidly connected spaced side members having their rear ends pivoted to the boom members 13 as at 22 and rigidly connected at their forward ends by means of a cross bar 23. Fixed to and projecting forwardly beyond the frame members 21 are arms 24 between the forward ends of which is pivoted a scoop 25, as at 26. The pivots 26 are located rearwardly of the center of gravity of the scoop 25 so that the latter will normally gravitate to the full line dumping position of Figure 3 when released. Means is provided for releasably holding the scoop 25 in scooping position as shown by full lines in Figure 1 and by dotted lines in Figure 3, which means includes a keeper-plate 27 fixed to the rear wall of the scoop 25 and projecting upwardly therefrom and terminating in a rearwardly directed upper end 28. The rearwardly directed end 28 of the keeper 27 is adapted to be received in a notch 29 of a pivoted catch 30 mounted at its lower end upon a horizontal pivot 31 carried by the cross bar 23 of the frame 21. A suitable spring device 32 is provided for yieldingly urging the catch 31 forwardly so as to maintain the end 28 of keeper 27 in the notch 29 and thereby hold the scoop 25 in scooping or loading position. The catch 30 is manually releasable by the attendant of the road scraper, and for this purpose a lever 33 is mounted on the road scraper in position for

convenient operation by said attendant, said lever 33 being operatively connected with the upper end of catch 30 by means of a link or cable 34. By swinging the lever 33 rearwardly, the latch 30 may be disengaged from keeper 27 so as to permit the scoop 25 to gravitate to the full line dumping position of Figure 3. Return of the scoop to loading position may be effected by lowering the frame 21 until the forward part of scoop 25 contacts the ground, after which further lowering movement of frame 21 will cause proper swinging of scoop 25 back to its loading position.

For the purpose of vertically swinging frame 21 and scoop 25 so as to lower said scoop into loading position and then raise it preparatory to dumping the load of the scoop, I provide hoisting means including the cable 19 which passes around an idler pulley 35 carried by the intermediate portion of a bail 36 pivoted to the arms 24 at opposite sides of scoop 25, said cable 19 passing upwardly from idler pulley 35 around pulley 20 and then rearwardly and downwardly to a hoisting drum 37 mounted on the chassis frame of the road scraper directly in front of the gear box 7. This winding drum 37 may form part of a conventional winch having means controllable by the attendant of the road scraper for starting and stopping the drum 37 and for driving the latter. Power for driving the drum 37 may be taken from the gear box 7 by means including a flexible power transmission shaft 38 having sections connected by universal joints as at 39. When the cable 19 is wound on drum 37, the scoop 25 and frame 21 will be caused to swing upwardly, after which the load of the scoop may be dumped by releasing the catch 30. By freeing the drum 37, frame 21 and scoop 25 may lower by gravity so as to position the scoop in lowered scooping position.

From the foregoing description, it will be seen that I have provided a very simple and durable loading attachment for road scrapers which may be economically manufactured, conveniently installed and readily controlled and operated. Minor changes in the details of construction illustrated and described are contemplated without departing from the spirit and scope of the invention as claimed.

What I claim as new is:

In a loader, a boom having one end mounted on the forward ends of a vehicle and extending upwardly and forwardly from said vehicle and including spaced members converging toward the forward end of the boom and braces connecting said members to each other and to the vehicle, a curved horn connecting the members at the forward end of the boom and having an eye, a pulley journaled in the horn, a hoisting element trained over the pulley and connected to the eye, a swinging frame pivoted at one end to the boom and including spaced arms, a scoop operating between said arms and pivoted thereto for assuming dumping position and load-carrying position, a latch member supported by the frame to releasably secure the scoop in load-carrying position, and a bail connected to the hoisting element and pivoted to the arms of the frame adjacent the pivots of the scoop on said arms.

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