E. V. McCULLOCH.
ATTACHMENT FOR TRACTION ENGINES.
APPLICATION FILED DEC. 28, 1909.

983,386. Patented Feb. 7, 1911

Fig. 1.

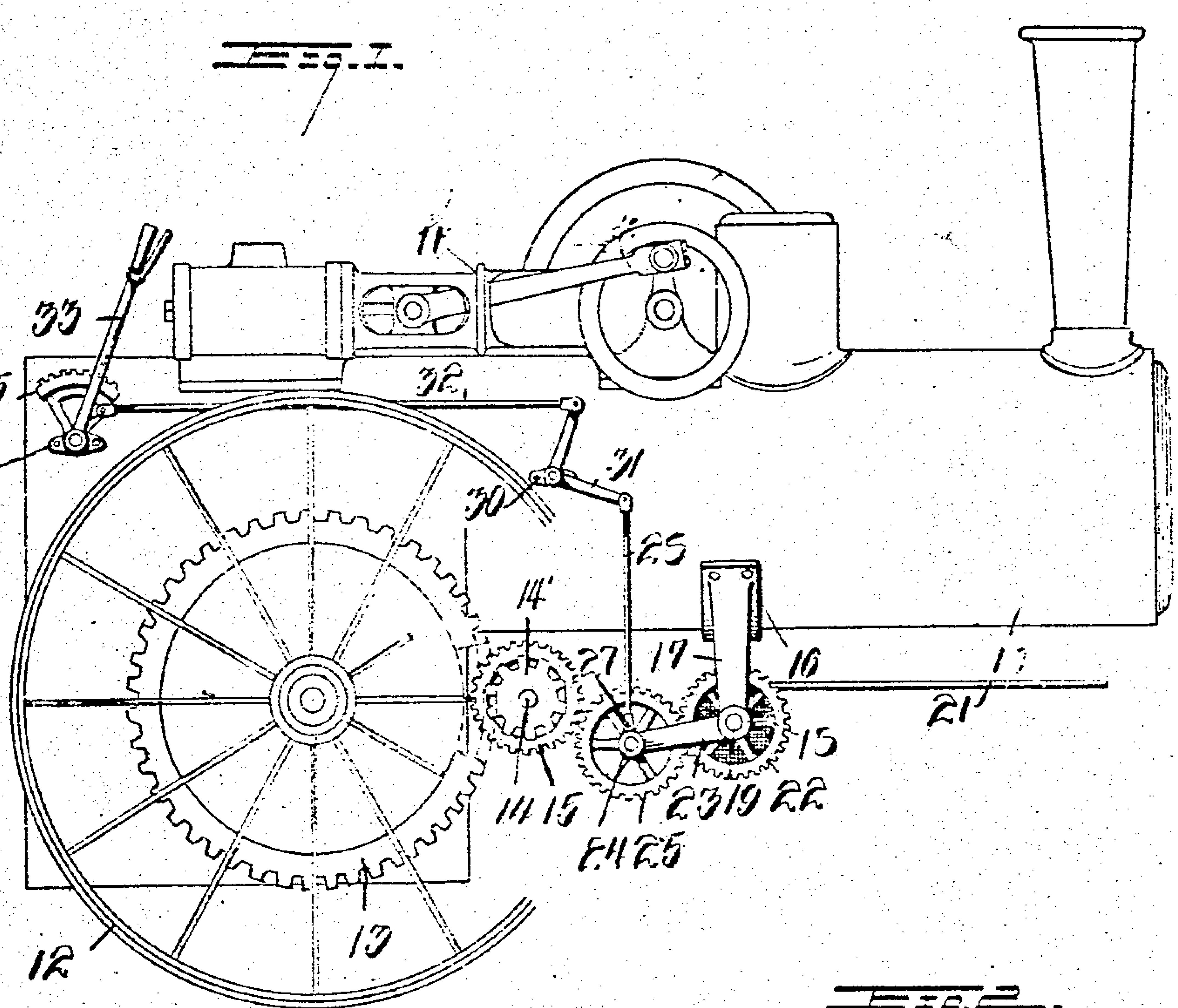
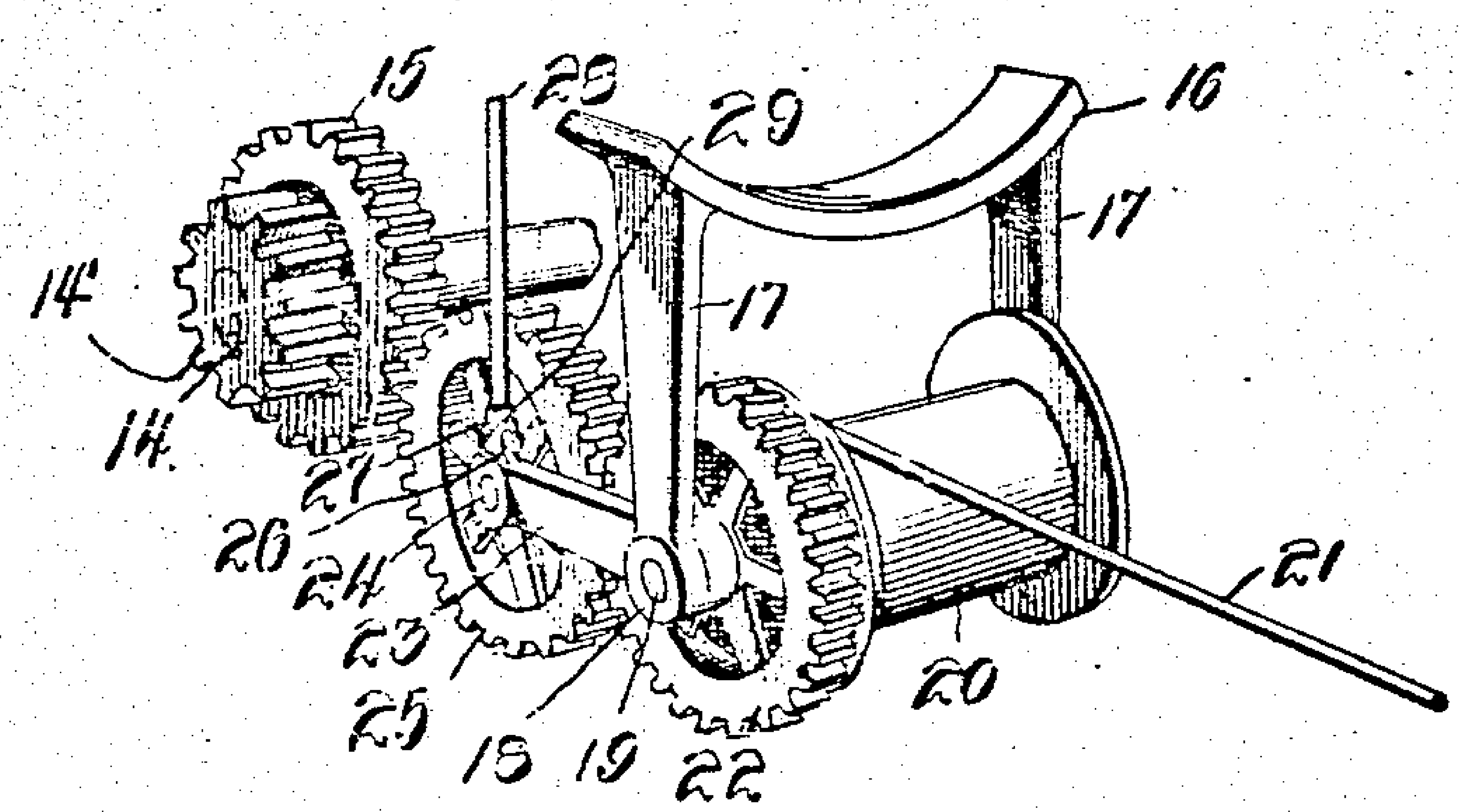


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

ELDRIGE V. McCULLOCH, OF ST. LOUIS, MISSOURI.

ATTACHMENT FOR TRACTION-ENGINES.

983,386. Specification of Letters Patent. Patented Feb. 7, 1911.

Application filed December 28, 1909. Serial No. 535,311.

To all whom it may concern:

Be it known that I, ELDRIGE V. McCULLOCH, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Attachments for Traction-Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to traction engines and has special reference to a novel form of hauling attachment for engines of this description.

One object of the invention is to provide means of novel character for releasably gearing a winding drum to the traction wheels of an engine of this description so that if the engine strikes muddy or slippery ground it may be enabled to pull itself out while at the same time the traction wheels are revolved.

With the above and other objects in view, the invention consists of an attachment for traction engines comprising a winding drum and certain novel gearing arrangements.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claim.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—Figure 1 is a partial side elevation of a traction engine showing the device applied thereto. Fig. 2 is a detail perspective view of the device removed from the engine with a portion of the same omitted.

The numeral 10 indicates the boiler of a traction engine and on this boiler is mounted the usual driving engine 11. The boiler and engine 11 are supported on tractor wheels 12 to one of which is attached a driving gear 13.

At 14 is a shaft which is suspended in any suitable manner below the boiler and just in front of the fire-box. On this shaft is keyed a pinion 14′ which constantly meshes with the gear 13 so that the shaft is rotated whenever the tractor wheels revolve, there being suitable connection between one of the wheels and the engine although this is not here shown as the same forms no part of the invention. Upon the shaft 14 there is also provided a second gear 15 which is fixed on the shaft in any suitable manner to revolve therewith. Below the boiler and firmly attached thereto is a saddle block 16 provided with downwardly extending spaced arms 17 each of which has formed at its lower end a bearing 18, the bearings being alined and adapted to receive the journal ends of a shaft 19. Secured to this shaft 19 is a drum 20 on which is wound a hauling cable 21. There is also provided on the shaft 19 a gear 22 which is, like the drum, securely keyed to the shaft and this shaft further has at the end adjacent the gear an arm 23 pivoted thereon and provided at its outer end with a stub shaft 24 whereon is mounted a gear 25 which constantly meshes with the gear 22. The gears 22 and 15 are in alinement and the teeth of the three gears 15, 22 and 25 are of the same pitch. By this means the gear 25 may be caused to mesh with the gear 15 if the arm 23 be raised.

In order to raise and lower the arm 23 and cause the gears 15 and 25 to engage this arm has provided near its outer end an upstanding ear 26 over which fits the forked end 27 of a lift rod 28, a pin 29 passing through the forked end and ear to connect the two. Upon the side of the boiler is a bracket 30 whereon is mounted a bell crank lever 31 one arm of which is connected to the upper end of the lift rod 28 while to the other arm there is connected a reach rod 32 the opposite end of which is connected to a latch lever 33 which is pivoted on a bracket 34, the lever carrying a quadrant 35 wherewith the latch of the latch lever is engageable.

In the operation of the device the gears 15 and 25 are ordinarily out of mesh as indicated in Fig. 1. If the engine gets stuck in a mud hole the rope 21 is led off to some convenient position such as a tree and its end there made fast. The latch lever 33 is then moved to the rear and this lifts the arm 23 through the medium of the reach rod, bell crank and lift rod. As the arm 23 is raised the gears 25 and 15 are brought into engagement and when the engine is started and the tractor wheels 12 revolved, the gear 13 serves to drive the train of gears formed by the gears 14, 15, 25 and 22, thus rotating the shaft 19 and drum 20. As the drum 20 rotates the cable 21 is wound thereon and materially assists

in pulling the engine out of the hole or depression. It is to be observed that the gears in the train and the diameter of the drum are properly proportioned so that the space traveled over by the wheels 12 will equal the length of rope or cable 21 wound upon the drum.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

Having thus described the invention, what is claimed as new, is:—

A device of the kind described including a shaft mounted for rotation, engine actuated means to drive said shaft, a gear fixed on said shaft to revolve therewith, a second shaft rotatably mounted parallel to the first mentioned shaft and in advance thereof, a drum fixed on said second shaft, a gear fixed on said second shaft, an arm pivoted at one end on said second shaft, an idler gear carried by said arm and constantly meshing with the gear on the second shaft, and means to move the arm around the second shaft and cause the idler gear to mesh with the first mentioned gear, said means including a lift rod connected to the arm, a bell crank lever fixed above said arm and having one arm of the lever connected to the lift rod, a reach rod connected to the other arm of the bell crank lever, a latch lever connected to said reach rod and a quadrant coöperating with said latch lever.

In testimony whereof, I affix my signature, in presence of two witnesses.

ELDRIGE V. McCULLOCH.

Witnesses:
W. C. Killeen,
Jack W. Johnson.