

No. 825,520.

PATENTED JULY 10, 1906.

G. CUFF.
TRACTION ENGINE.

APPLICATION FILED SEPT. 21, 1905.

2 SHEETS—SHEET 1

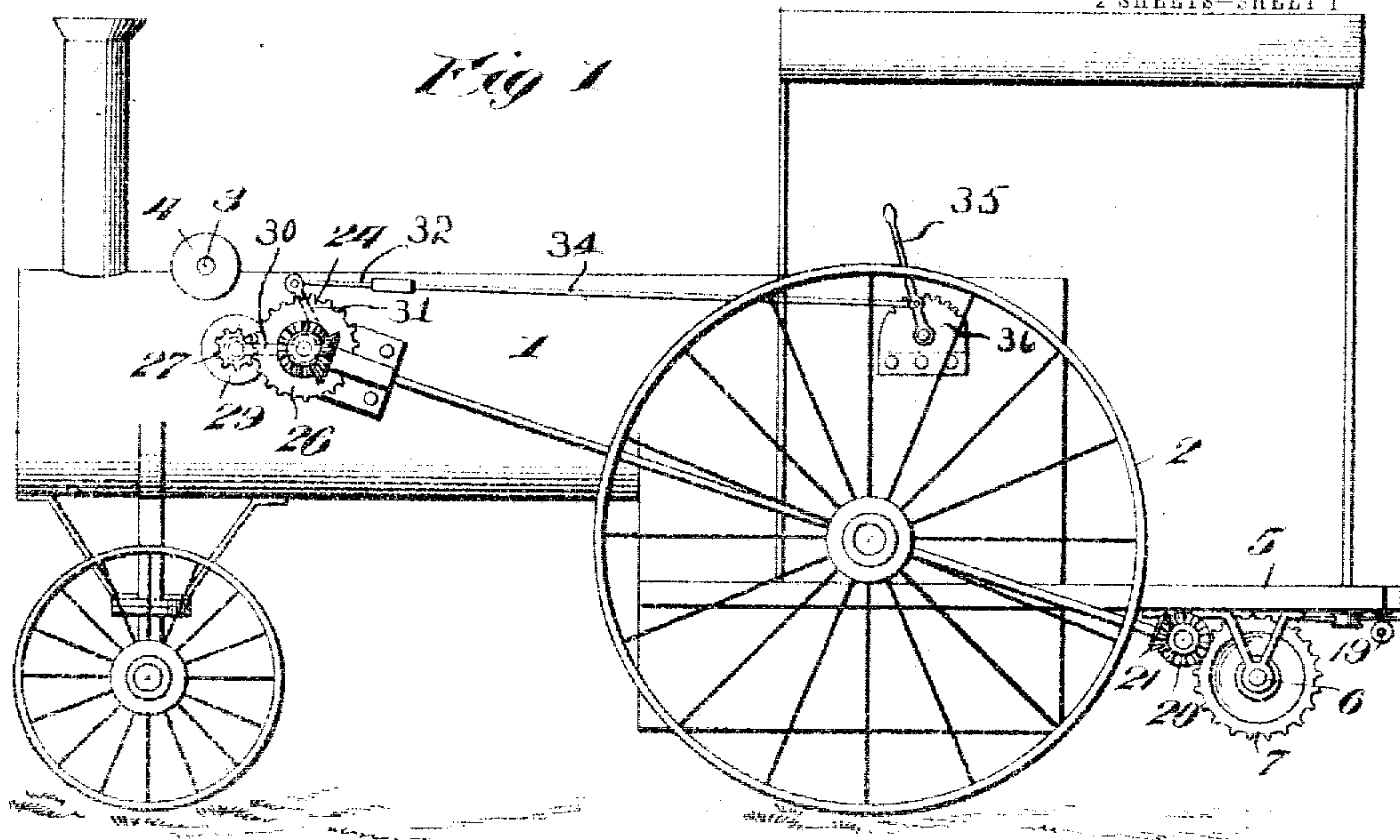
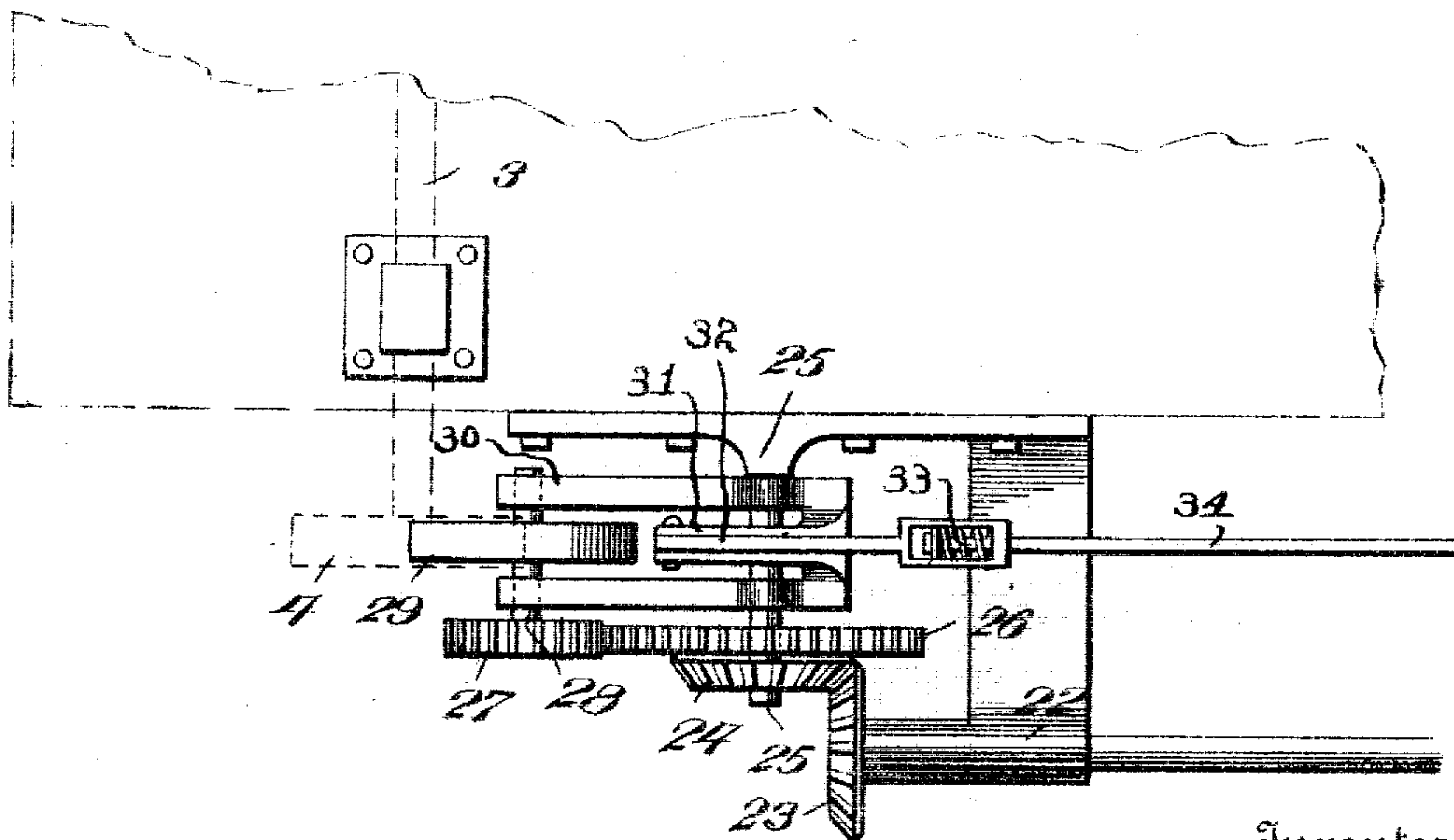


Fig. 3.



Witnesses

Thomas C. Dean
L. O. Kilton

Inventor
George Cuff

by *A. B. Rivison*
Attorney

G. CUFF.
TRACTION ENGINE.

APPLICATION FILED SEPT. 21, 1905.

2 SHEETS—SHEET 2

Fig. 2.

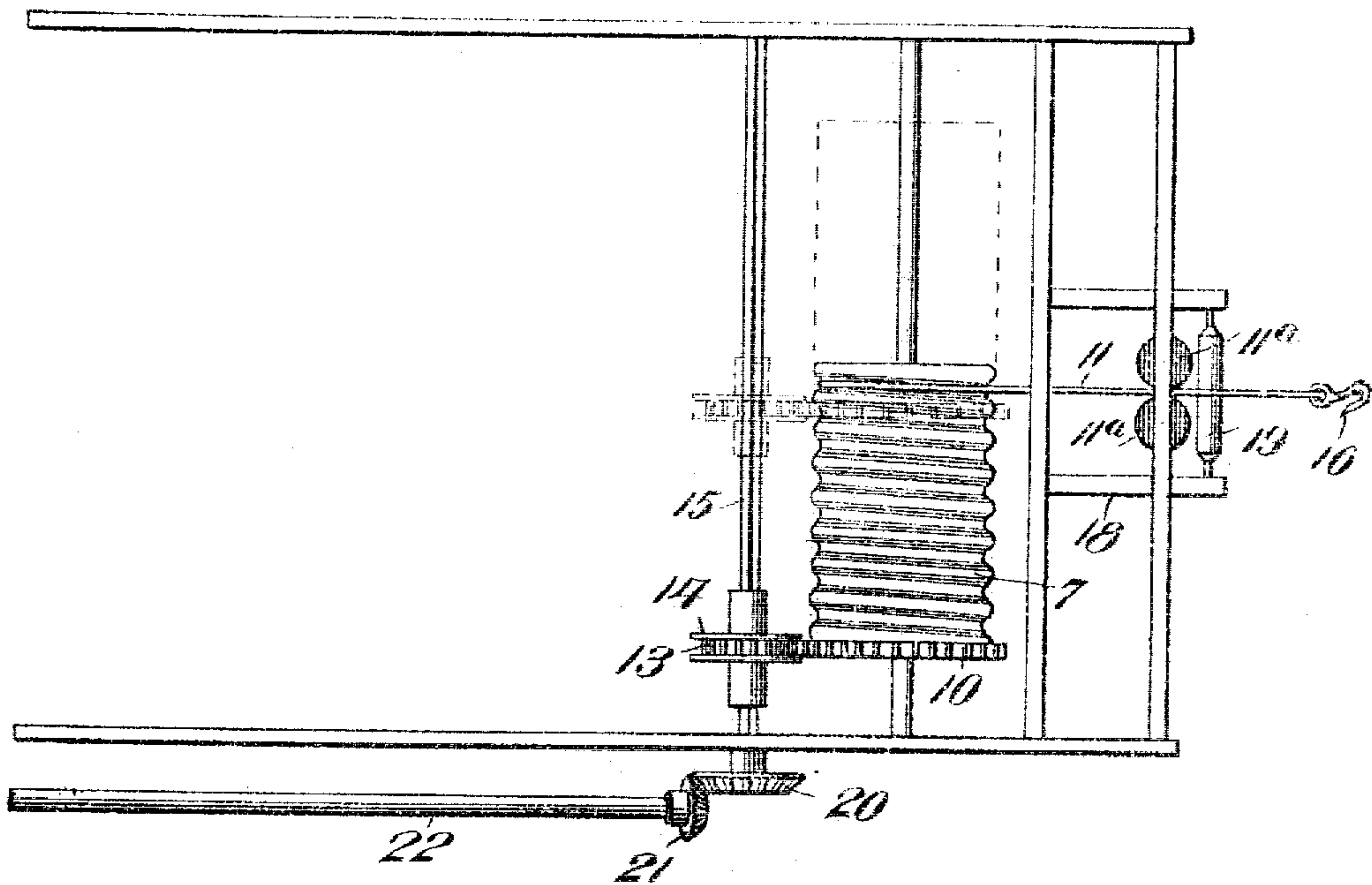


Fig. 5.

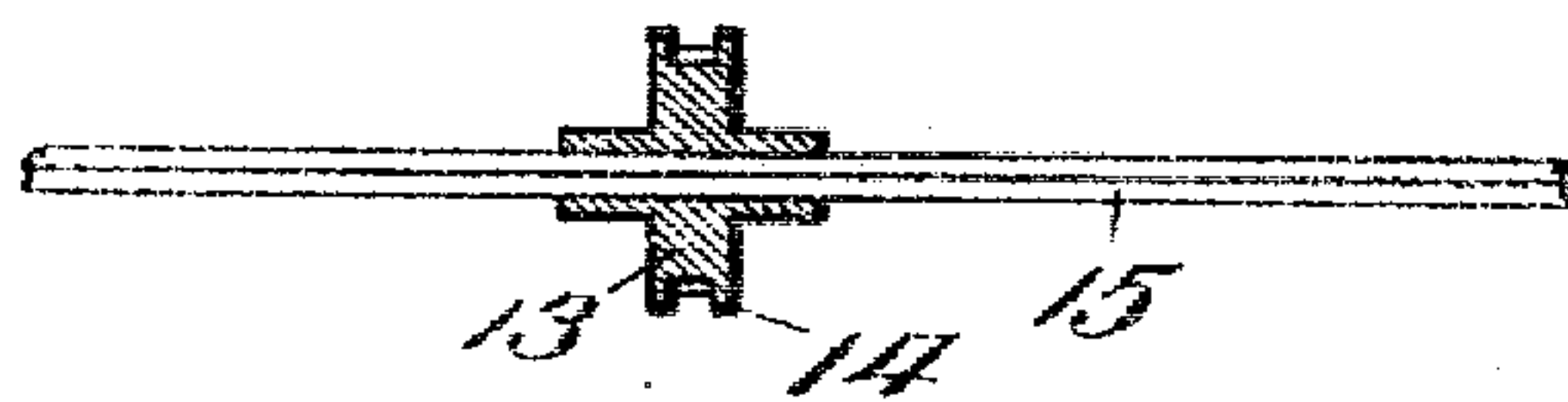
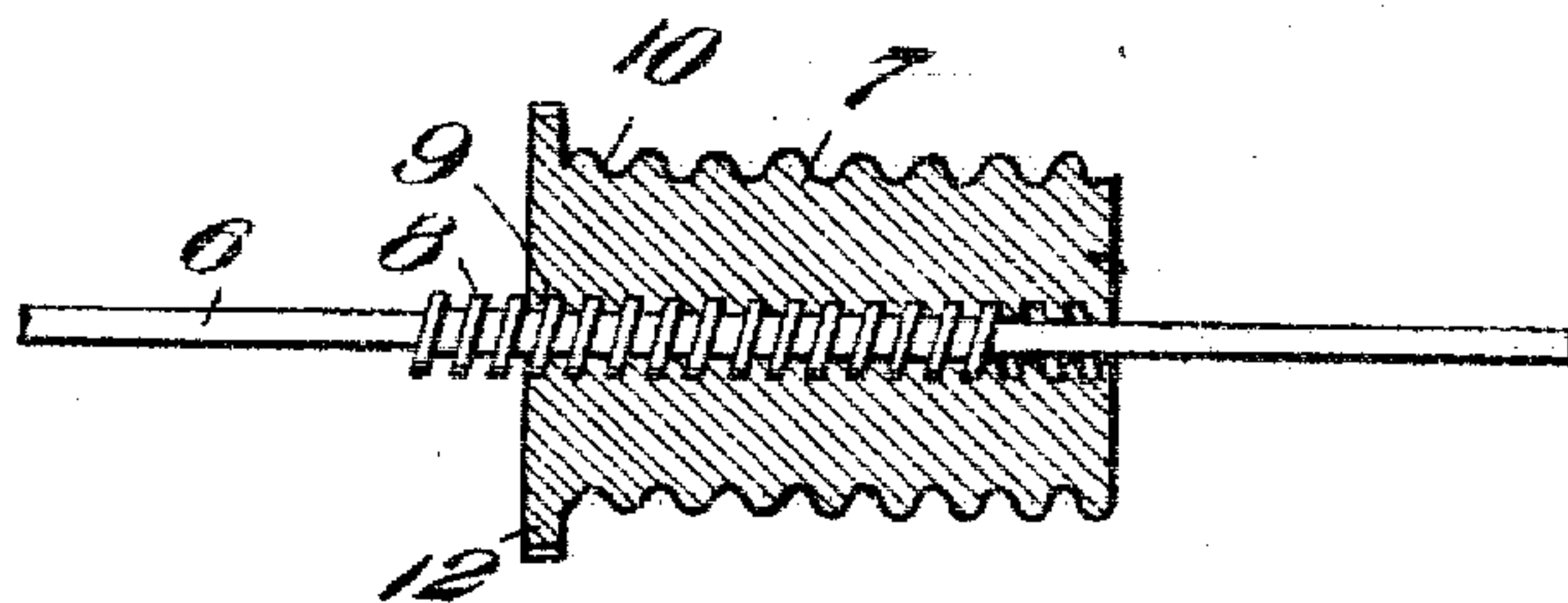


Fig. 4.



Witnesses

Thomas Riley
L. O. Hilton

Inventor
George Cuff

by *A. B. Wilson*
Attorney

UNITED STATES PATENT OFFICE.

GEORGE CUFF, OF POYNETTE, WISCONSIN.

TRACTION-ENGINE.

No. 825,520.

Specification of Letters Patent.

Patented July 10, 1906.

Application filed September 21, 1905. Serial No. 279,489.

To all whom it may concern:

Be it known that I, GEORGE CUFF, a citizen of the United States, residing at Poynette, in the county of Columbia and State of Wisconsin, have invented certain new and useful Improvements in Traction-Engines; and I do 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 one of the principal objects of the same is to provide an attachment for hauling heavy freight up grades and over rough roads and to provide means whereby said attachment may be quickly thrown into and out of operation.

Another object is to provide a cable-winding mechanism under the engineer's platform which can be operated to haul freight up steep grades while the traction-engine is standing still and which can also be used for hauling freight on level ground or good roads by traction.

These and other objects are attained by means of the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a traction-engine having my attachment applied thereto. Fig. 2 is a plan view of the winding mechanism of the freight attachment. Fig. 3 is an enlarged plan view of the mechanism for connecting the winding mechanism with the crank-wheel of the engine. Fig. 4 is a longitudinal sectional view of the winding-drum, and Fig. 5 is a similar view of the sliding pinion which is geared to the winding-drum and slides upon its shaft.

Referring to the drawings for a more particular description of the invention, the numeral 1 designates the boiler of a traction-engine; 2, traction-wheels; 3, the crank-shaft, and 4 the crank-wheel. These parts may be of the usual or any preferred construction.

Under the engineer's platform at the rear of the engine is a suitable frame 5, in which is journaled a shaft 6, on which is mounted a winding-drum 7. The shaft 6 is provided with screw-threads or spiral corrugations 8, and the heads of the winding-drum 7 are provided with projections 9, which engage the corrugations 8, and thus as the drum is rotated it is moved laterally upon the shaft 6. On the outer surface of the drum is a spirally-arranged groove 10 for the cable 11. At the

end of the drum is a crown gear-wheel 12, engaged by a crown gear-pinion 13, provided with guide projections 14, designed to hold the pinion in connection with the wheel 12. The pinion is mounted to slide upon a shaft 15, and this may be accomplished by squaring the shaft and the central aperture in the pinion or by a long spline-and-feather connection. The cable 11 is connected at one end to the winding-drum and at its opposite end is provided with a suitable draft-hook 16 for connection to a load of freight. The cable 11 passes out between a pair of grooved idler-pulleys 17, journaled to a frame 18, mounted upon the engineer's platform at the rear end thereof, and a roller 19 is journaled in a horizontal position to said frame. By means of the construction thus far described it will be obvious that the cable will be wound in the spirally-arranged groove 10 of the winding-drum and will move the drum laterally upon its shaft, while the cable will always retain its central draft-line. The shaft 15 is rotated by means of a bevel-pinion 20 on said shaft adapted to engage a bevel-pinion 21 on a longitudinal shaft 22, journaled in brackets extending from the engine, said shaft having a bevel-gear 23 at its front end adapted to engage a similar gear 24, secured to a stub-shaft 25, provided with a crown gear-wheel 26, which engages a similar gear 27 on a stub-shaft 28, provided with a friction-wheel 29, said friction-wheel adapted to be moved into and out of engagement with the crank-wheel 4. The friction-wheel 29 is journaled in a yoke 30, journaled to shaft 25, said yoke having an angular extension 31, to which the connecting-rod 32 is pivotally attached. The rod 32 is provided with a spring 33 to impart a yielding action to the extension-rod 34, connected to the lever 35, provided with a rack 36. When the lever 35 is thrown toward the right in Fig. 1, the friction-wheel 29 is engaged with the crank-wheel 4.

From the foregoing it will be obvious that the traction-engine may be operated to mount a steep grade, and that the load of freight may be attached to a draft-hook while the engine is standing at the top of the grade, and the friction-wheel may be thrown into engagement with the crank-wheel 4, and the winding mechanism set in operation to haul the load up to the traction-engine. On smooth roads the load may be carried along with the traction-engine, and when a steep grade is to

be mounted the rope or cable may be paid out until the traction-engine is at the top of the hill. The winding mechanism may also be similarly utilized for drawing a load over a rough road.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a traction-engine, a winding mechanism for hauling loads, comprising a winding-drum having a spirally-arranged groove on the surface thereof, a cable secured thereto, guide-pulleys for said cable, means for permitting the drum to move laterally upon its shaft to wind the cable in the groove on said surface, a pinion having guide projections to engage a gear-wheel on the drum, said pinion adapted to move laterally on its shaft, and

means for rotating said shaft, substantially as described.

2. In a winding mechanism for traction-engines, a drum provided with a spirally-grooved surface for a cable, means for permitting said drum to move laterally upon its shaft, a pinion connected to a gear-wheel on said drum, said pinion adapted to slide laterally with the drum, means for revolving its shaft, a friction-wheel mounted in a sliding guide and adapted to be moved into and out of contact with the crank-wheel of the traction-engine, and connections between the friction-wheel and the pinion-shaft, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE CUFF.

Witnesses:

H. A. GUNDERSON,
OTTO J. G. PETERS.