

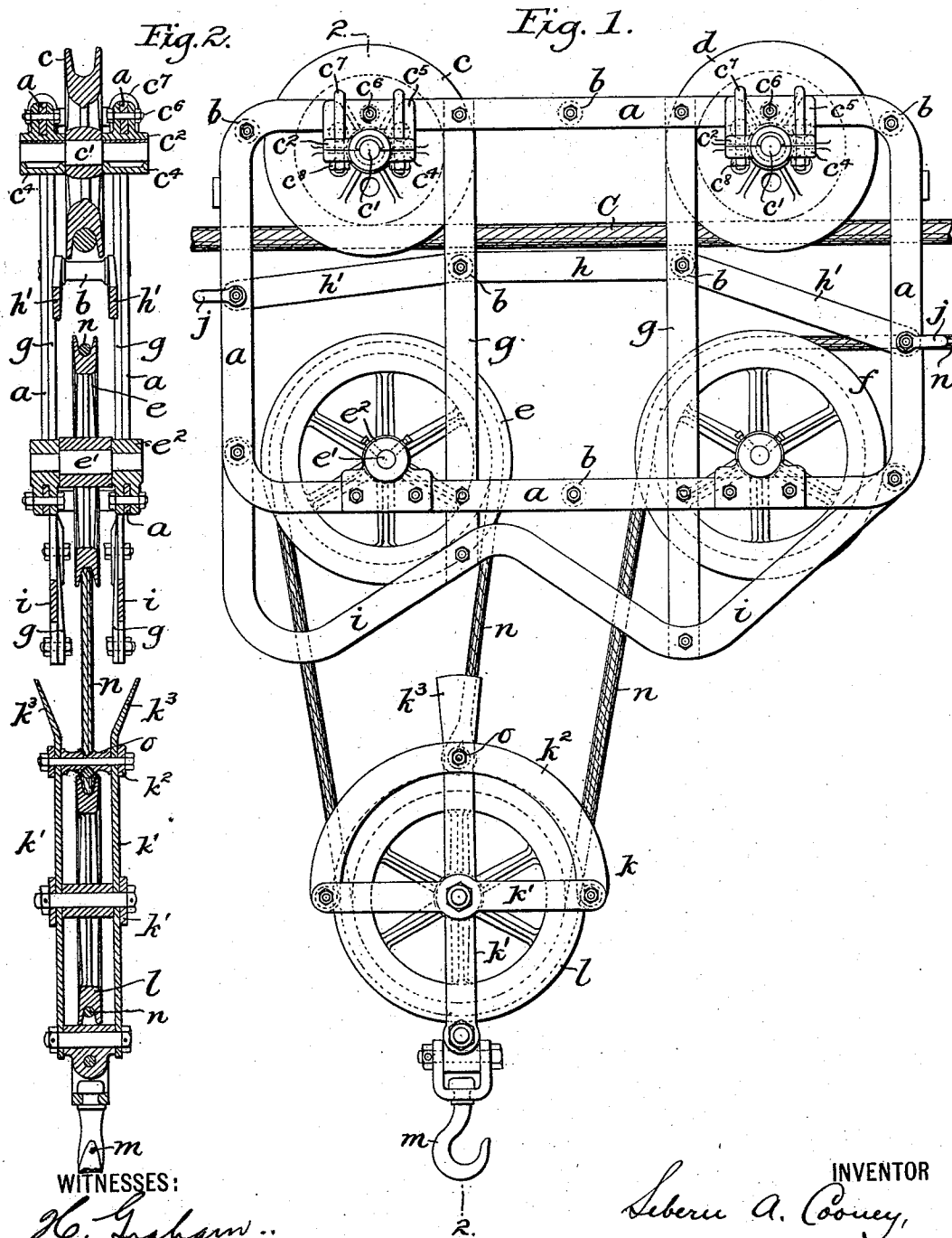
(No Model.)

2 Sheets—Sheet 1.

S. A. COONEY.
TROLLEY FOR CABLEWAYS.

No. 534,315.

Patented Feb. 19, 1895.



WITNESSES:

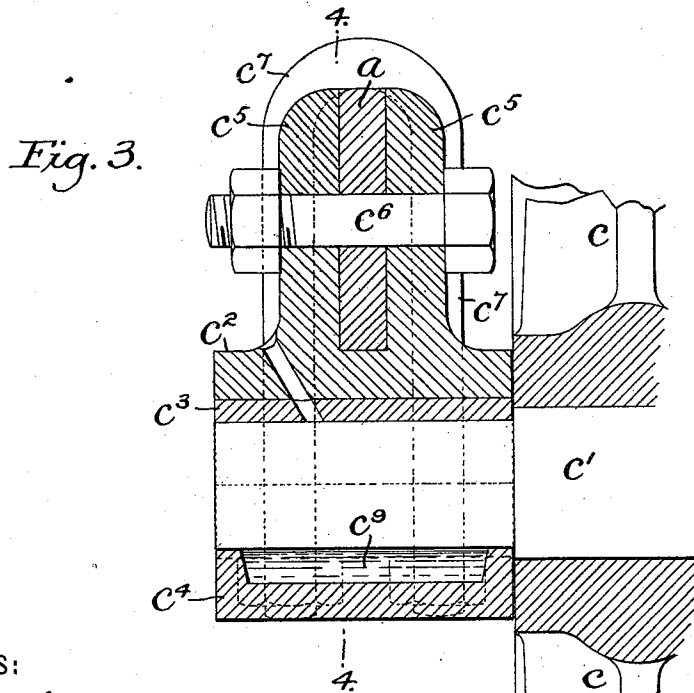
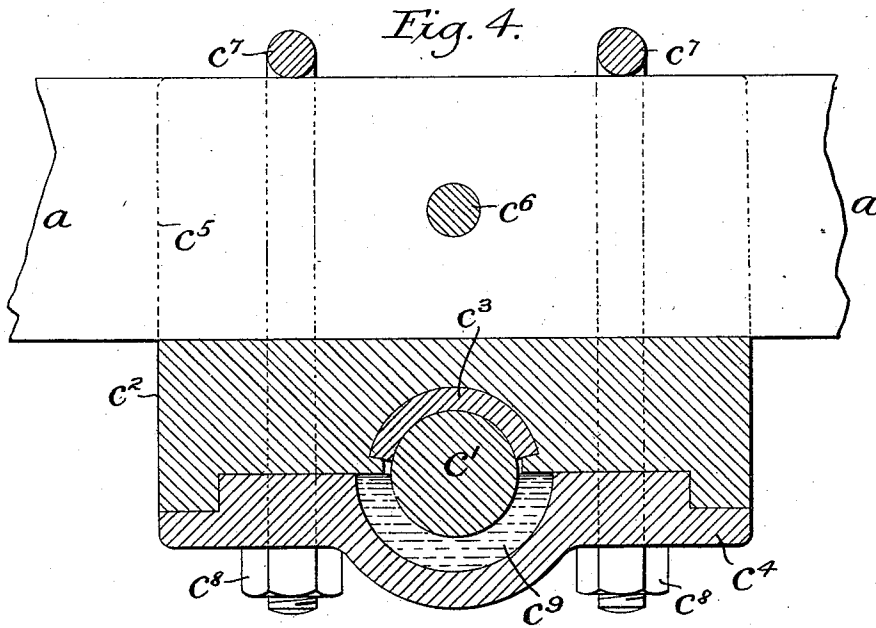
H. Graham..
E. L. Todd.

INVENTOR
Siberus A. Cooney,
BY
Graham & Low
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

SEBERN A. COONEY, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO THE JOHN A. ROEBLING'S SONS COMPANY, OF TRENTON, NEW JERSEY.

TROLLEY FOR CABLEWAYS.

SPECIFICATION forming part of Letters Patent No. 534,315, dated February 19, 1895.

Application filed August 9, 1894. Serial No. 519,897. (No model.)

To all whom it may concern:

Be it known that I, SEBERN A. COONEY, a citizen of the United States of America, residing at the city, county, and State of New York, have invented certain new and useful Improvements in Trolleys for Cableways, of which the following is a specification.

This invention particularly relates to the construction of the trolley or carriage for cableways; and has for its object to provide an exceedingly stiff and rigid as well as light structure adapted to the strain of the heavy loads it has to support and carry and to the hard wear and careless handling incident to its use, and further to providing an increased bearing for the carrying wheels with means for constantly lubricating the journals.

To these ends the improved trolley consists in the novel structure and arrangements of parts hereinafter fully set forth, reference being had to the accompanying drawings which illustrate a practical embodiment of the invention.

In said drawings: Figure 1 is a side elevation of the improved trolley with a portion of the cableway on which it usually travels and with a portion of the fall rope for lowering and raising the fall block to and with the load. Fig. 2 is a vertical cross section of the same on the line 2, 2, of Fig. 1. Fig. 3 is an enlarged cross section of one of the bearings for the shaft of one of the trolley carrying wheels. Fig. 4 is a longitudinal vertical section on the line 4, 4, of Fig. 3.

The improved construction embraces a trolley framework consisting of two rectangular open side frames *a* preferably of flat bar metal separated a suitable distance apart and tied together at proper points by tie bolts *b*, which frames afford support for a pair of grooved carrying wheels *c*, *d*, and a pair of fall-rope guide pulleys *e*, *f*, which are each mounted between the side frames. The side frames *a* are strengthened vertically by vertical bars *g* united by bolts to the horizontal top and bottom rails of the side frames, and are strengthened longitudinally to take the pull of the traction rope, by longitudinal bars *h* connected to the vertical bars *g* and by inclined bars *h'* which are united to the vertical bars

and to the vertical end rails of the side frames *a*. At the points of connection of the bars *h'* with the side frames, there are provided eyes *j* for attachment with the ends of the usual traction rope.

In addition to the rectangular side frames *a* there is provided a supplemental frame consisting of two frames *i* of **W**-shape separated a distance apart and arranged immediately below the frames *a* with their ends bolted to the said frames, the vertical bars *g* extending to the supplemental frames with their lower ends riveted to said frames *i*.

The fall block *k* may be of any suitable construction supporting a pulley *l* and a hook *m* for attachment of the load thereto. The end of the fall rope *n* is connected at *o* to the fall block above the axis of its pulley and from thence it passes over the guide pulley *e*, thence down around the fall block pulley *l* and up over the guide pulley *f* to the winding drum of the engine at the terminus of the cableway.

The fall block framework is composed of two side pieces formed in the shape of four radial arms *k'*, and two semi-circular pieces *k''*, connecting three of the arms of each side piece together, the fourth arm of each side piece forming a connection for the hook *m*; the side pieces being separated a short distance apart and connected together by tie bolts with interposed sleeves.

The peculiar shape of the side frames *i* guards the under side of the guide pulleys *e*, *f*, from the fall block *k* when the latter is in its raised position; and the upward central bend of said frames provides a recess which permits the fall block to approach the lower rail of the side frames *a* much nearer than if the frames *i* were otherwise shaped. The central vertical arm of each of the fall block side frames is extended upward to form flared tongues *k''* to embrace opposite sides of the supplemental side frames *i* and serve to hold the fall block steady with the trolley preventing undue lateral vibration.

The longitudinal bars *h* of the trolley framework are arranged just below the normal position of the carrying cable *C* when the trolley is on the cable, so that the tie bolts *b* cross-

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ing the frame work immediately below the cable serve to prevent the carrying wheels *c*, *d*, from accidentally leaving the cable.

Each of the guide pulleys *e*, *f*, rotates loosely on a transverse spindle *e'* the ends of which are fixed in bearings *e²* secured to the lower rail of the side frames *a*. The bearings *e²* have lower ears which straddle the lower rail of the side frame and are bolted thereto.

Each of the carrying wheels *c*, *d*, is secured to a shaft *c'* the projecting journals of which enter top bearing-members *c²* arranged beneath the upper rail of the side frames *a*. This bearing is provided with a semi-circular recess to overlie and rest on the journal of the wheel shaft *c'*, the recess having a lining *c³* of Babbitt or other similar metal, and a cap *c⁴* or lower bearing-member is secured to the under side of the bearing to inclose the journal and prevent the wheel from becoming displaced should the trolley or carriage be removed from the carrying cable. The bearing *c²*, see Figs. 3 and 4, is formed with ears *c⁵* which embrace opposite sides of the upper rail of the side frame *a* and incidentally the rail and ears are connected together by a single bolt *c⁶*. The bearing, however, is firmly connected to the side frame by a pair of U-shaped bolts *c⁷* which straddle said upper rail and the ears *c⁵* with their legs extending through holes in the flanges of the bearing and its cap and having nuts *c⁸* at their lower ends rigidly holding the bearing and cap in place. The cap *c⁴* is formed with a recess or well *c⁹* for a lubricant in which the journal of the shaft *c'* constantly lies and hence it and the bearing are always supplied with the required amount of oil.

The described arrangement of the bearings *c²* for the carrying wheels provides an increased bearing surface for the journals of the wheel shafts and renders it feasible to have the wheel shafts to rotate in bearings in contradistinction to the wheels rotating on fixed axles. The bearings being formed by separate pieces fixed to the side frames of the trolley make it possible also to construct the framework of comparatively thin material from the fact that the side frames are not required to be wide and thick enough to be perforated to receive the wheel axles and afford suitable support therefor, and hence the structure as a whole may thus be quite light and still be of the requisite stiffness.

What is claimed is—

1. The herein described trolley-frame consisting of rectangular side frames united together, having carrying wheel bearings ar-

anged beneath and suspended from the upper rails of the side frames and engaging the sides of said rails.

2. The herein described trolley-frame consisting of rectangular side frames united together and lower supplemental frames of **W**-form, combined with the fall-block having the flared tongues *k³*, substantially as set forth.

3. The herein described trolley-frame consisting of rectangular side frames united together, having carrying wheel bearings arranged beneath and secured to the upper rails of the side frames and provided with vertical flanges engaging the sides of said frames and also having guide pulley bearings arranged above and secured to the lower rails of the side frames.

4. The combination with the trolley frame rail, of a top bearing-member secured to the under side of said rail to receive and rest on a journal and provided with a vertical flange engaging the side of said rail, and a cap or lower member having a lubricant-well in which the journal extends, as set forth.

5. The combination with the trolley frame rail, of a bearing for seating on the carrying wheel journal said bearing having ears embracing opposite sides of the rail, a cap to said bearing having a lubricant well in which the journal extends and U-bolts securing the bearing and cap to the rail, as set forth.

6. The combination with the trolley-frame rail, of a bearing for seating on the carrying-wheel journal, said bearing having ears embracing opposite sides of the rail, a cap, and U-bolts securing the bearing and cap to the rail, as set forth.

7. The herein described trolley-frame consisting of side rails united together and formed of thin bars of greater vertical dimension than thickness, combined with bearings extending transversely of and past said rails and formed with vertical flanges engaging the sides of the rails, substantially as set forth.

8. The herein described trolley-frame consisting of upper and lower side rails, vertical bars uniting the ends of said rails, intermediate bars *g* uniting said rails and extending below the lower rail, and a **W**-frame secured at its ends to the main part of the trolley-frame, and intermediately to the ends of said bars *g*, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two witnesses.

SEBERN A. COONEY.

Witnesses:

GEO. H. GRAHAM,
E. L. TODD.