No. 812,621. PATENTED FEB. 13, 1906.

J. G. WAILS.

TAKE-UP DEVICE FOR OVERHEAD CABLE RAILWAYS.

APPLICATION FILED AUG. 31, 1905.

Fig. 1.

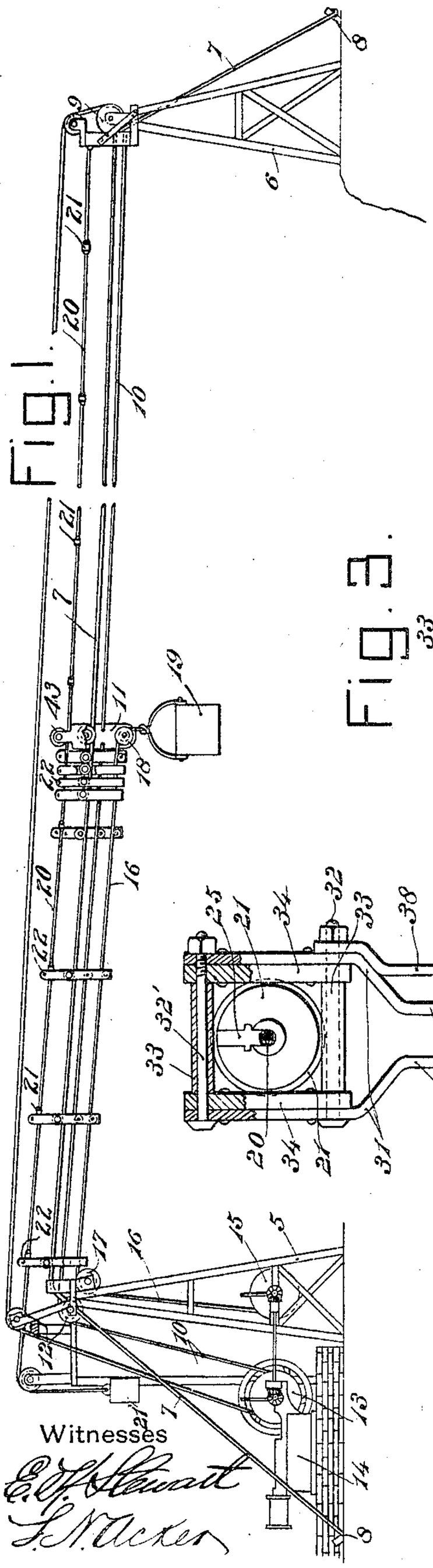


Fig. 4.

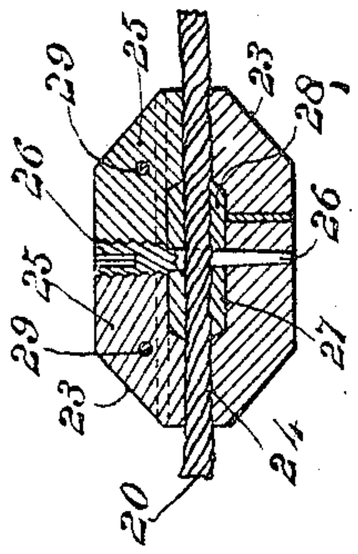
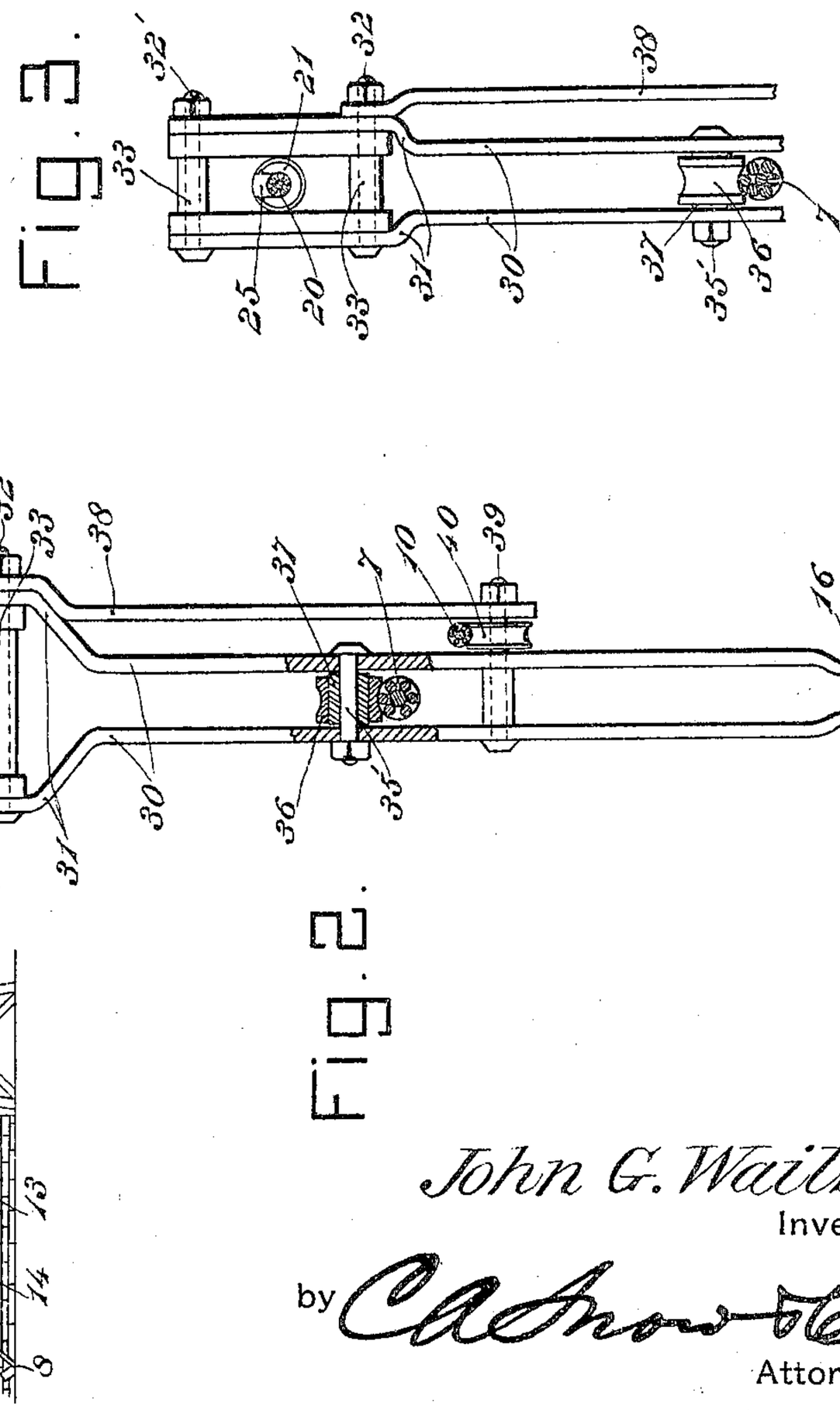


Fig. 3.



Witnesses

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TAKE-UP DEVICE FOR OVERHEAD-CABLE RAILWAYS.

No. 812,621. Specification of Letters Patent. Patented Feb. 13, 1906.

Application filed August 31, 1905. Serial No. 276,605.

To all whom it may concern:

Be it known that I, JOHN G. WAILS, a citizen of the United States, residing at Delta, in the county of York and State of Pennsylvania, have invented a new and useful Take-Up Device for Overhead-Cable Railways, of which the following is a specification.

This invention relates to hoisting and conveying apparatus, and more particularly to an improved supporting hanger or carrier for taking up the slack in the overhead cable as the carriage travels back and forth.

The object of the invention is to provide an inexpensive, durable, and efficient device of this character in which the several hangers automatically engage a plurality of spaced stop-buttons or projections on an auxiliary cable when the carriage is traveling in one direction and successively ride over said buttons when the carriage is traveling in the reverse direction.

A further object of the invention is to improve, simplify, and cheapen the construction of this class of devices so as to add to their utility and reduce the cost of manufacture.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportions, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a hoisting and conveying apparatus constructed in accordance with my invention. Fig. 2 is a front elevation, partly in section, of one of the supporting hangers or carriers. Fig. 3 is a similar view of a portion of another one of the hangers, showing the upper end thereof reduced or contracted. Fig. 4 is a longitudinal sectional view of one of the stop-buttons or projections.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The conveying apparatus consists of the usual head support or tower 5 and the tail support or tower 6, connected at their upper ends by a main supporting-cable 7, the opposite ends of which are anchored in any suitable manner, as indicated at 8.

Journaled on the tail-tower 6 is a wheel or pulley 9, which engages an endless cable 10, the opposite ends of which are fastened in any suitable manner to the carriage 11 and pass over a pair of pulleys 12 on the head-tower 5 and thence to a drum 13, the latter being driven by an engine 14 or from any other suitable source of power. Disposed adjacent to the drum 13 is a similar drum 15, to which is attached a hoisting rope or cable 16, the latter passing over a pulley 17 on the tower 5 and thence over a pulley 18 on the carriage for engagement with the hoisting bucket or receptacle 19.

Secured to the tail-tower 6 is one end of an auxiliary rope or button-cable 20, the opposite end of which passes over a wheel or pulley on the head-tower and is provided with a terminal weight 21′ for exerting a longitudinal pull on the cable, so as to keep the latter taut.

Disposed at spaced intervals on the auxiliary cable 20 are a plurality of stop-buttons or projections 21, adapted to engage the supporting hangers or carriers 22, said buttons having their opposite ends inclined or beveled, as indicated at 23, and gradually increasing in size from the head-tower to the tail-tower, as shown. The buttons 21 are provided with longitudinal seating-recesses 24, adapted to receive the cable 20, and in which are mounted sliding blocks 25, the ends of which are threaded for the reception of correspondingly-threaded locking keys or wedges 26, the latter being adapted to engage the strands of the cable, as shown. The buttons are also preferably formed with annular depressions or pockets 27, adapted to receive a quantity of Babbitt metal 28 to assist in preventing longitudinal movement of said buttons, while the slides or blocks 25 of the latter are locked in position by transverse pins 29. The specific form of these stop-buttons or projections, however, constitute no part of the present invention, being merely

shown in order to enable the construction and operation of the device to be more readily understood, said buttons forming the subject-matter of a separate application filed by me on the 26th day of August, 1905, under Serial No. 275,938.

The cable-supporting hangers or carriers 22, five of which are preferably employed to a thousand-foot span, each consist of a pair of side bars 30, having their upper portions offset, as indicated at 31, and connected by transverse pins or bolts 32 and 32′, on which are mounted bearing sleeves or collars 33, the latter engaging oppositely-disposed wear-plates 34, which serve to receive the impact of the buttons 21, and thereby prevent excessive wear on the side bars of the hangers. Journaled in the reduced end of the hanger is a pulley 35, adapted to engage the hoisting rope or cable 16, while journaled on a bolt 35′, extending transversely of the side bars at a point intermediate the ends of the latter, is a large pulley 36, which travels on the main supporting-cable 7, said pulley being preferably provided with suitable bushing 37. Secured to one of the side bars of the hangers, preferably by means of the bolt 32, is a flat plate or bar 38, the lower end of which is spaced from the adjacent side bar by a bolt 39, which also extends transversely through the hanger, as shown. Journaled on the bolt 39 between the plate 38 and the adjacent side bar of the hanger is a pulley 40, adapted to support that portion of the endless rope or cable between the carriage 11 and the head-tower 5. The upper ends of the side bars of the hangers are spaced different distances apart to accommodate the different stop-buttons, each hanger being adapted to engage one button and ride over the remaining buttons. It will thus be seen that when the carriage is moved in the direction of the head-tower it will pick up the hangers successively and carry them as far as it goes in that direction and when said carriage moves in the opposite direction the hangers will engage their respective stop-buttons, and thereby support the cable and prevent undue sagging of the same.

A roller 43 is preferably journaled in the top of the carriage 11 for engagement with the button-cable 20, whereby the latter is normally held out of contact with the sleeves 33 of the several hangers.

From the foregoing description it is thought that the construction and operation of the device will be readily understood by those skilled in the art to which it appertains, and further description thereof is deemed unnecessary.

The improved carriers are particularly designed for use on slack or inclined cables; but it is obvious that they may be employed in connection with all cables in which it is necessary to regulate the slack of the same.

Having thus described the invention, what is claimed is—

1. In a conveying apparatus, a supporting-cable, a carriage mounted for travel on said cable and provided with a hoisting-pulley, an endless cable connected to the carriage for actuating the same, an auxiliary cable disposed above the endless cable and provided with a plurality of stop-buttons, a roller journaled on the carriage for engagement with the button-cable, a hoisting-cable passing over the hoisting-pulley and having a receptacle attached thereto, a plurality of carriers for supporting the several cables and adapted to engage said stop-buttons, and a tension device for the auxiliary cable.

2. In a conveying apparatus, a head-tower and a tail-tower, a supporting-cable connecting the two, a pulley journaled on one of said towers, a plurality of pulleys rotatably mounted on the opposite tower, a carriage mounted for travel on the supporting-cable, an endless belt connected to the carriage and passing over a pulley on one of the towers and engaging a pair of pulleys on the opposite tower, an auxiliary cable connected to the tail-tower and passing over one of the pulleys on the head-tower, said auxiliary cable being provided with a terminal weight and having a plurality of spaced stop-buttons secured thereto, a hoisting-cable engaging a fourth pulley and connected to the carriage, and a plurality of carriers for supporting said cables and adapted to engage said stop-buttons.

3. In a conveying apparatus, a cable-carrier comprising a pair of spaced side members having their upper ends offset and connected by transverse bolts, said side members being provided with wear-plates.

4. In a conveying apparatus, a cable-carrier comprising a pair of spaced side members having their upper ends offset and connected by transverse bolts, wear-plates engaging the side members, and sleeves carried by the transverse bolts and engaging the wear-plates.

5. In a conveying apparatus, a cable-carrier comprising a pair of spaced side members having their upper ends offset and connected by transverse bolts, wear-plates carried by the side members and retained in position by the transverse bolts, pulleys journaled between said side members, a plate secured to the offset portion of the carrier and

spaced from the adjacent side member, and a pulley journaled between said plate and side member.

6. In a conveying apparatus, a cable-carrier comprising a pair of spaced side members having their upper ends offset and connected by transverse bolts, wear-plates engaging the side members, sleeves mounted on the bolts and engaging the wear-plates, pulleys journaled between the side members, a plate spaced from one of the side members and secured to the offset portion of the carrier by one of the transverse bolts, and a pulley journaled between said plate and the adjacent side member.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN G. WAILS.

Witnesses:
HUGH CRAIG,
BAYARD LUNNEY.