(No Model.)

A. O. WYMAN.

TROLLEY.

No. 589,109. Patented Aug. 31, 1897.

Fig. 1

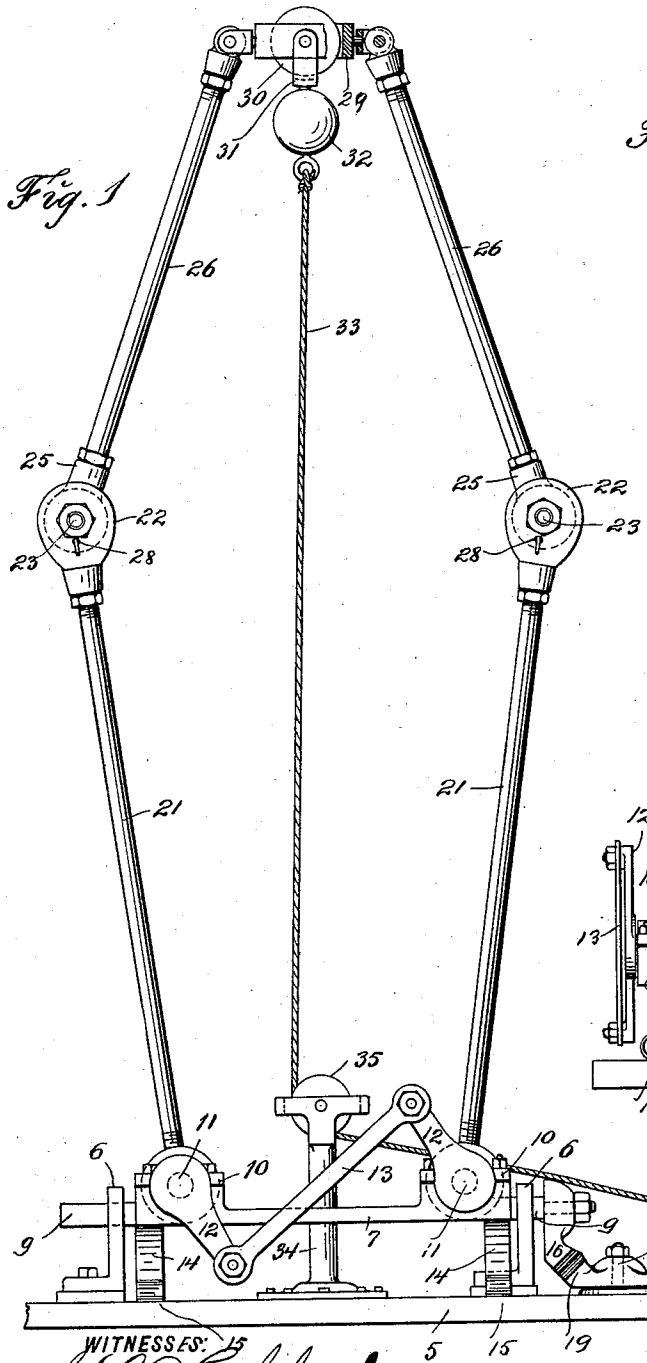
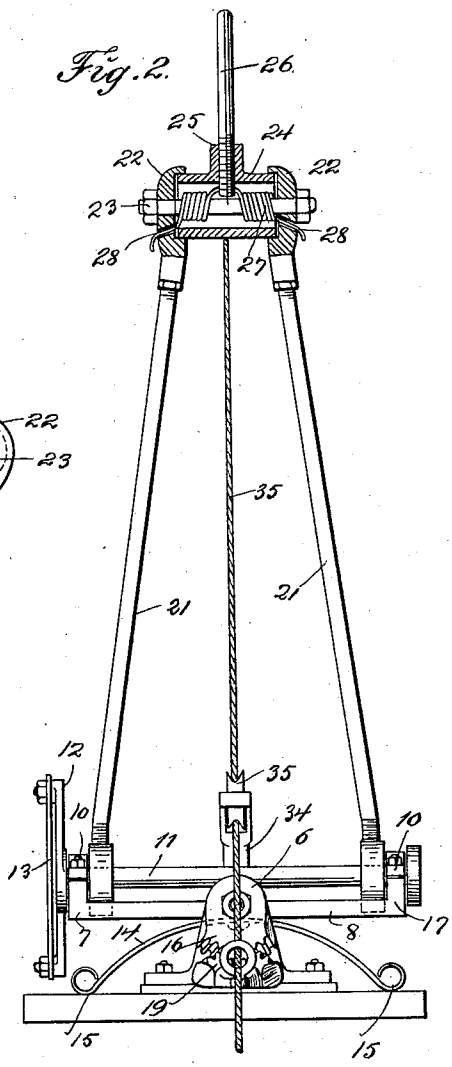


Fig. 2.



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UNITED STATES PATENT OFFICE.

ALBERT OREN WYMAN, OF TURNER'S FALLS, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JAMES A. GUNN, OF SAME PLACE.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 589,109, dated August 31, 1897.

Application filed April 20, 1897. Serial No. 633,047. (No model.)

To all whom it may concern:

Be it known that I, ALBERT OREN WYMAN, a citizen of the United States, residing at Turner's Falls, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Trolleys, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to trolley-arms for trolley-cars; and the object thereof is to provide an improved device of this class which is adapted to be raised and lowered by pulling on the usual trolley cord or rope and which is also pivotally connected with the top of a car and adapted to move laterally thereon, this movement being also effected by means of the trolley cord or rope.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side view of my improved trolley-support and showing a portion of the top of the car with which the same is connected, and Fig. 2 an end view of a part thereof, part of the construction being shown in section.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in said drawings I have shown at 5 part of the top of an ordinary trolley-car, and in the practice of my invention I secure thereto, centrally thereof, standards 6, in which is pivoted a main or base frame which consists of side bars 7 and end bars 8.

The end bars 8 of the main frame are provided with trunnions 9, which pass through the keepers 6, and said frame is thus pivotally supported at the center thereof, and said frame is provided at each side and each end thereof with bearings 10, in each of which is mounted a shaft 11, and each of these shafts 11 is provided with a crank 12, one of which is directed downwardly and the other upwardly, as shown in Fig. 1, and these cranks 12 are connected by a crank-rod 13, and secured to one side of each of the end bars 7 of the main frame is a strong curved spring 14, the ends of which bear on the top of the car, as shown at 15, and one of the trunnions 9, by which the main frame is supported, is provided with a segmental gear-head 16, and pivotally connected with the top of the car at 17 is a lever 18, which is provided with a similar segmental gear-head 19, which is adapted to operate in connection with the segmental gear-head 16, and the lever 18 is provided at its free end with a ring or eye 20.

The shafts 11, which are mounted in the bearings 10 of the main frame, are each provided with upwardly-directed arms 21, and the arms 21 of each of the shafts 11 are provided at their upper ends with circular heads 22, through which is passed a bolt 23, and mounted between said heads 22 is a short tubular head 24, through which the bolt 23 also passes, and the tubular head 24 is provided on its upper side with an upwardly-directed tubular extension 25, in which is secured a supplemental arm 26, and wound on the bolt 23, within the tubular head 24, is a strong spiral spring 27, the ends of which are passed through or connected with the heads 22, as shown at 28, and the central portion of which is connected with the inner end of the supplemental arm 26 or with said tubular head 24.

The supplemental arms 26 are pivotally connected at their upper ends with a cross-head 29, in which is mounted a trolley-wheel 30, and said head 29 is provided with a yoke 31, which is pivotally connected therewith, and pivotally connected with said yoke and suspended therefrom is a knob 32, with which is connected the trolley cord or rope 33.

Secured centrally of the top of the car and centrally of the main frame of the device and projecting upwardly therethrough is a standard 34, and supported in the upper end thereof is a pulley 35, and the trolley cord or rope 33 is passed beneath or around said pulley and outwardly between two of the side arms 21 at one end of the main frame and through the eye or ring 20 at the end of the lever 18, and the operation will be readily understood from the foregoing description when taken in connection with the accom-

panying drawings and the following statement thereof:

By pulling on the free end of the trolley cord or rope 33, which in practice hangs over the end of the car, the trolley-wheel 30 may be depressed, and in this operation the upper ends of the arms 21 at each side of the main or base frame and the lower ends of the supplemental arms 26 bend outwardly at their pivotal connection, and said arms 21 also turn outwardly on their pivotal connection with the main or base frame, and when the trolley cord or rope is released the springs 27 will operate to return the main and supplemental arms 21 and 26 to the position shown in Fig. 1, so as to raise the trolley-wheel 30 to its highest position. It will also be apparent that the trolley-wheel may be depressed by pressure thereon or on the cross-head 29, by which it is supported, and this operation is such that the trolley-wheel is always supported in the desired position by means of the springs 27, and the crank-rod 13 and cranks 12 operate to cause the supplemental arms 21 at each end of the main or base frame of the device to operate together or simultaneously under all circumstances. It will also be apparent that by pulling laterally or toward either side on the end of the cord or rope 23 the lever 18 may be operated so as to turn the entire trolley-support, consisting of the main or base frame and the arms 21 and 26, to one side, the direction of the movement of these parts depending on the direction in which the lever 18 is turned, this operation being accomplished by means of the gear-heads 16 and 19, and the springs 14, which are connected with the ends of the main or base frame, serve to retain said frame and the arms 21 and 26 in their normal position and to return the same to their normal position when they have been moved laterally, as above described.

This device is simple in construction and operation, and by means thereof the trolley-wheel may be manipulated as desired, and said device is adapted to serve under all conditions and may be connected with any trolley-car as now constructed, and it will be apparent that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. A support for the trolley-wheel of trolley-cars consisting of a frame which is pivotally supported longitudinally thereof on the top of a car, said frame being provided at each end with springs which bear on the top of the car, and with shafts which are mounted transversely thereof, said shafts being provided at one end with cranks which are connected by a crank-rod, and said shafts being also provided with upwardly-directed main arms which connect at their upper ends with a tubular cross-head, and provided with a shaft which passes therethrough, said tubular cross-heads being also provided each with an upwardly-directed supplemental arm, and said shafts in said tubular cross-heads being provided with springs which operate upon the main arms, and on the supplemental arms, and said supplemental arms being pivotally connected at their upper ends with a cross-head in which is mounted a trolley-wheel, and means for depressing said trolley-wheel, and operating said frame, substantially as shown and described.

2. A support for the trolley-wheel of trolley-cars, consisting of a frame which is pivotally supported longitudinally thereof on the top of a car, said frame being provided at each end with springs which bear on the trolley-car, and with shafts which are mounted transversely thereof, said shafts being provided at one end with cranks which are connected by a crank-rod, and said shafts being also provided with upwardly-directed main arms which connect at their upper ends with a tubular cross-head, and provided with a shaft which passes therethrough, said tubular cross-heads being also provided each with an upwardly-directed supplemental arm, and said shafts in said tubular cross-heads being provided with springs which operate upon the main arms, and on the supplemental arms, and said supplemental arms being pivotally connected at their upper ends with a cross-head in which is mounted a trolley-wheel, and means for depressing said trolley-wheel, and operating said frame, consisting of a trolley cord or rope which is connected with said cross-head and which is under the control of the conductor or motorman, substantially as shown and described.

3. A support for the trolley-wheel of trolley-cars, consisting of a main or base frame which is pivotally supported above the top of the car, said frame being provided at each end with springs which bear on the top of the car, and at one end thereof, with a segmental gear-head, a lever which is pivotally connected with the top of the car, and which is also provided with a segmental gear-head which operates in connection with that with which said frame is provided, said lever being also provided at its free end with a ring or eye, and said frame being provided at each end with shafts which are connected by means of cranks, and a crank-rod, arms which are secured to said shafts, and which are projected upwardly and which connect at their upper ends with tubular cross-heads, supplemental arms connected with said cross-heads and projecting upwardly, springs mounted in said tubular cross-heads, and acting in connection with said supplemental arms, a cross-head by which the upper ends of the supplemental arms are connected, a trolley-wheel mounted therein, and a trolley cord or rope which is con-

nected with said cross-head, and passed downwardly around a pulley supported in said main or base frame, and then through the eye or ring at the end of said lever, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 12th day of April, 1897.

ALBERT OREN WYMAN.

Witnesses:
ARTHUR E. WYMAN,
FRANK E. SEVERANCE.