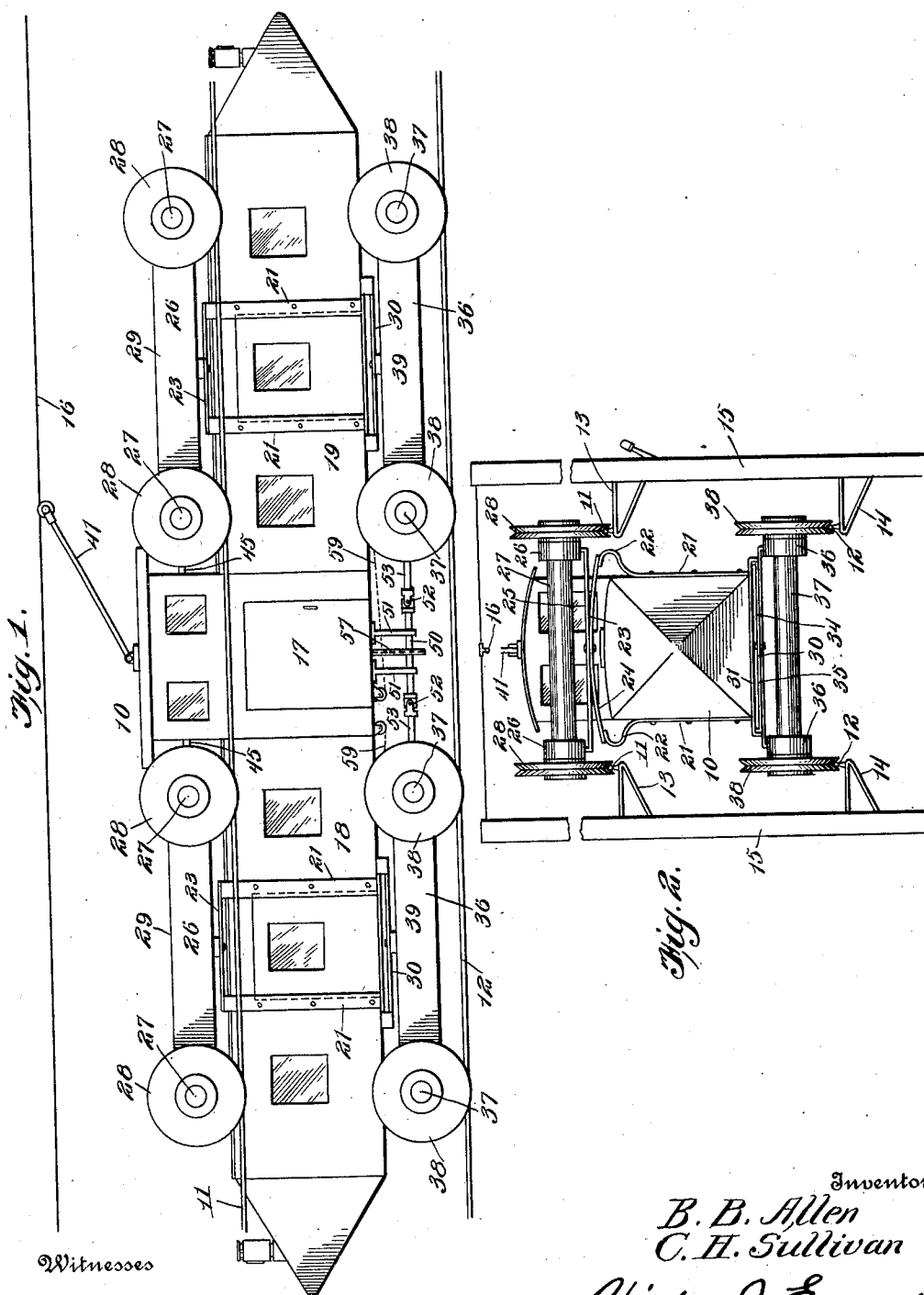


B. B. ALLEN & C. H. SULLIVAN.
ELEVATED RAILWAY CAR.
APPLICATION FILED DEC. 10, 1912.

Patented Mar. 18, 1913.

3 SHEETS—SHEET 1.

1,056,723.



Witnesses

Louis P. Heinrichs
A. H. Hester

Inventors

B. B. Allen
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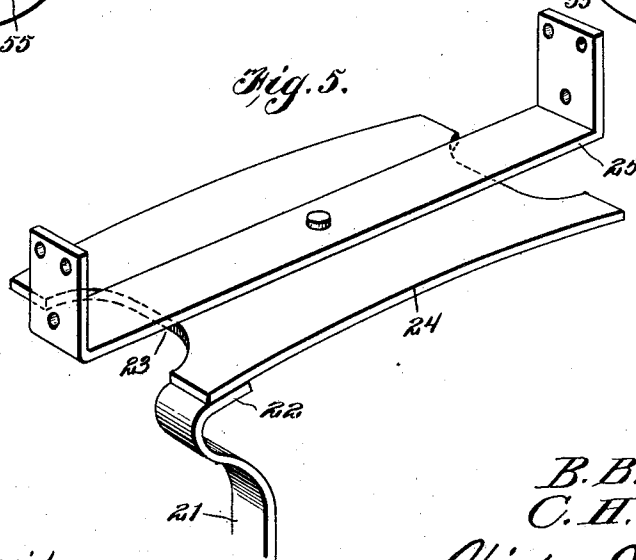
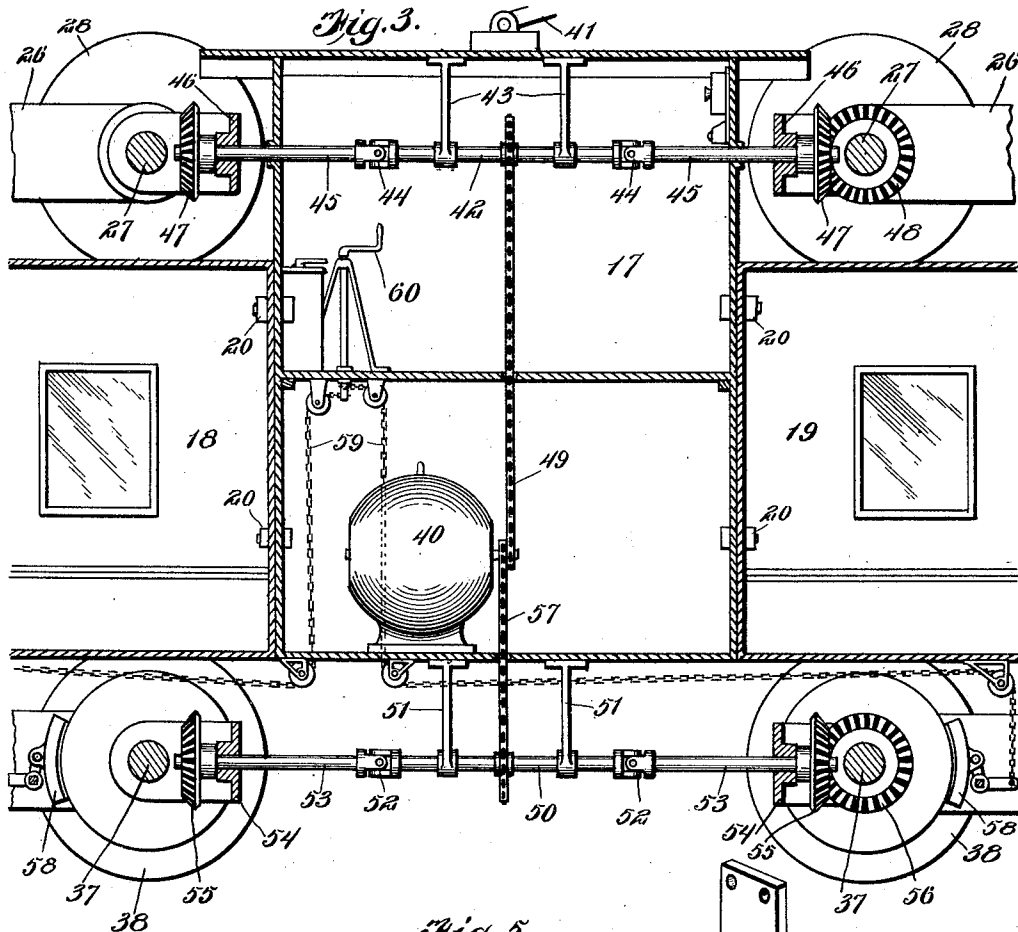
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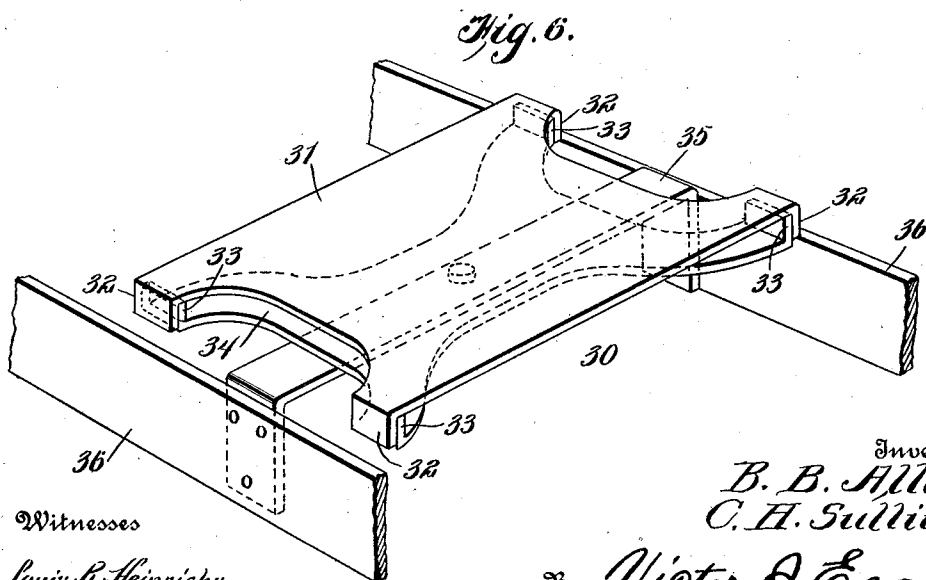
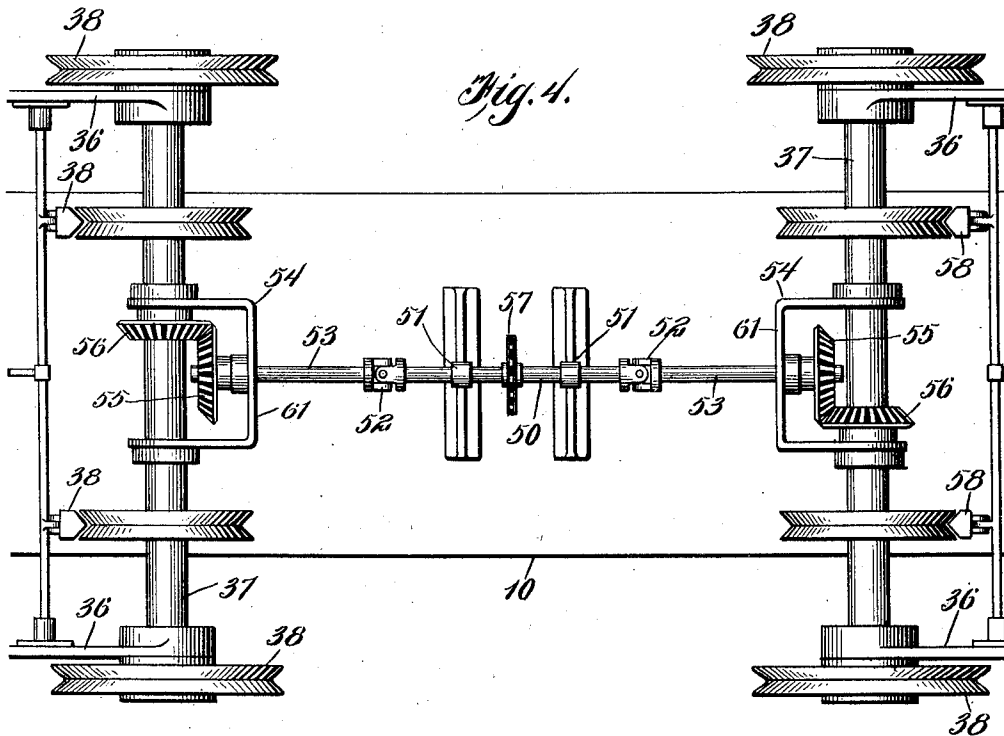
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UNITED STATES PATENT OFFICE.

BENNETT B. ALLEN AND CLEMENT H. SULLIVAN, OF MOUNT VERNON, ILLINOIS.

ELEVATED-RAILWAY CAR.

1,056,723.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed December 10, 1912. Serial No. 736,016.

To all whom it may concern:

Be it known that we, BENNETT B. ALLEN and CLEMENT H. SULLIVAN, citizens of the United States, residing at Mount Vernon, in the county of Jefferson and State of Illinois, have invented new and useful Improvements in Elevated-Railway Cars, of which the following is a specification.

The invention relates to elevated railway cars and has for an object to provide a car operable over an overhead cableway system.

The invention embodies, among other features, a car particularly adapted for conveying mail from one locality to another and which can be operated at a high rate of speed over a cableway system.

The invention further embodies a car that can be driven by its own motive power or by means of an overhead conductor and which includes separable sections, whereby one or more sections can be removed from the car proper and be replaced by other sections.

A still further embodiment of the invention resides in a car which is constructed so that the car body or sections thereof will be cushioned to prevent an undue amount of jolting when the car is advanced over the cableway system.

In the further disclosure of the invention reference is to be had to the accompanying drawings, constituting a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which:

Figure 1 is a side elevation of the car showing the same supported on the cableway system; Fig. 2 is a front elevation of the structure disclosed in Fig. 1; Fig. 3 is an enlarged fragmentary vertical longitudinal sectional view; Fig. 4 is a bottom plan view of the structure disclosed in Fig. 3; Fig. 5 is a perspective view of one of the cushion members for the upper trucks; and Fig. 6 is a perspective view of one of the cushion members for the lower trucks.

Referring more particularly to the views, use is made of a car 10 adapted to be operated over upper and lower cableways 11, 12, supported on upper and lower brackets 13 and 14, secured to poles 15 and arranged in the manner shown in Fig. 2, the cables being preferably provided in pairs to provide an upper pair of cableways and a lower pair of cableways. The poles 15 are also adapted to support a current conveying wire 16 which is adapted to supply current to the car in or-

der to advance the same over the cableways 11, 12, it being understood, however, that the motive power of the car can be self-contained and in the nature of a storage battery or the like.

The car 10 includes a car body 17, a front car section 18 and a rear section 19, the said sections being separable from the car body 17, as shown in Fig. 3, and ordinarily connected thereto by means of suitable fastening members 20 also shown in Fig. 3, it being understood that closed car sections can be preferably employed during the winter season while open car sections would preferably be employed during the summer season. Furthermore, by having the sections removable from the car body the various parts composing the car can be more readily repaired or adjusted in that ready access can be had to the inner ends of the car sections and to the ends of the car body when the sections are removed therefrom. The closed ends of the car sections 18 and 19 are preferably tapered in order to present the least possible resistance to the wind when the car is advanced over the cableways 11 and 12.

Secured to the sides of the car sections 18 and 19 are uprights 21, the said uprights being preferably made of metal and bent in a U-shape at their upper ends to form supporting members 22, four uprights being preferably employed for the front car section 18 and a similar number for the rear car section 19, the said uprights comprising two sets, one set for each car section. Supported on the supporting members 22 of each set of uprights 21 is a cushion member 23, the said cushion member being arranged above the roof of the car section and consisting of a spring-like plate 24 pivotally supporting a U-shaped connecting member 25 having secured to the lateral ends thereof truck bearings 26 on which are journaled shafts 27 carrying grooved wheels 28, the said truck bearings 26, shafts 27 and wheels 28 constituting upper trucks 29, with one upper truck for each of the car sections 18 and 19. It will now be seen that the cushion members 23 supported on the spring-like supporting members 22 and which, through the medium of the truck bearings 26, carry and support the trucks 29, will tend to form cushions and prevent jolting of the car when the same is advanced over the cableways 11 and 12. Similarly, cushion members 30 support the car sections 18 and 19, with one

cushion member provided for each car section, the said cushion members, however, each consisting of a plate 31 upon which the car section is mounted and provided with downwardly struck flanges 32 overlapping upwardly struck flanges 33 formed with a lower plate 34 having pivotal connection with a connecting member 35 secured to truck bearings 36 on which are journaled horizontal shafts 37 carrying grooved wheels 38 to provide lower trucks 39, the said upper trucks 29 and lower trucks 39 being adapted to lie in the same vertical plane on the respective car sections 18 and 19, with the wheels 28 of the upper trucks operating over the upper cableways 11 and the wheels 38 of the lower trucks 39 operating over the lower cableways 12, as will be readily seen by referring to Figs. 1 and 2.

A motor 40 is supported within the car body 17 and has connection with a pole 41 supported on the roof of the car body and adapted to operate over the wire 16 as shown in Fig. 1, a horizontal shaft 42 being journaled in hangers 43 suspended from the roof of the car body 17 and having connection by means of universal couplings 44 with auxiliary shafts 45, each journaled in a yoke 46 and carrying a beveled toothed wheel 47 meshing with a beveled toothed wheel 48 keyed to the shaft 27 of the upper truck 29 of each of the car sections 18 and 19, a suitable chain or other connecting member 49 being employed to connect the shaft 42 with the motor 40. Similarly, a shaft 50 is journaled in hangers 51 depending from the floor of the car body 17 and the said shaft has connection by means of universal couplings 52 with auxiliary shafts 53, each journaled in a yoke 54 and carrying a beveled toothed wheel 55 in mesh with a toothed wheel 56 carried by the shaft 37 of the lower truck 39 of each of the said car sections 18 and 19, a chain 57 being provided to connect the shaft 50 with the motor 40 in the same manner that the chain 49 connects the shaft 50 with the motor 40 in the same manner that the chain 49 connects the shaft 42 with the motor, it being understood, however, that only the inner pairs of wheels of the upper and lower trucks have connection with the motor in the manner mentioned, the outer pairs of wheels in each truck being free and independent on their respective trucks. It will now be seen that when the motor 40 is operated rotation will be imparted to the inner wheels of the respective upper and lower trucks 29 and 39 to advance the car 10 over the cableways 11 and 12. Brake members 58 are adapted to engage the inner pairs of wheels of each of the lower trucks 39 and are arranged to swing into or out of engagement with the said wheels, the said brake members having connection, by means of suitable chains 59,

with a brake lever 60, this construction being of any ordinary type and simply provided for the purpose of more fully bringing out the structure of the car, it being readily understood that any well known type of brake mechanism may be employed to operate on the inner wheels of the upper and lower trucks when it is desired to reduce the speed of the car over the cableways 11 and 12. The yokes 46 and 54 are similar in construction and each consists of a U-shaped plate 61, with the yokes for the upper trucks journaled on the shafts 37, the auxiliary shafts 45 of the upper trucks being arranged to pass transversely through the yokes for the upper trucks to journal the yokes thereon, with the auxiliary shaft 53 likewise arranged so that the yokes 54 for the lower trucks will be journaled thereon, this construction being substantially shown in Fig. 4.

Now referring to Figs. 1 and 2, it will be seen that the lower trucks 39 operate over the cableways 12 and the upper trucks 29 operate over the cableways 11 and it will be further seen that by cushioning the upper and lower trucks in the manner mentioned heretofore, the car body 17, including the car sections 18 and 19 and forming the car 10, will be cushioned so that the car will not be subjected to any jolting or vibration while operating over the cableways, and it will be seen that the upper and lower trucks are carried by the front and rear car sections 18 and 19, with the car body 17 suspended between the sections and carrying the motive power for driving the wheels 28 and 38 of the respective upper and lower trucks 29 and 39.

Although we have shown our device as arranged to receive power from a conducting wire arranged overhead of the cableways, it will be understood that the car can be provided with suitable storage batteries so that the power for driving the car will be self-contained, it being further understood that the elevated car described herein is preferably employed for use in conveying mail or packages from one locality to another, it being readily seen that by providing the cableway system over which the car operates that the cableways can be readily strung over rivers, ravines and hills by simply erecting the usual poles 15 at spaced distances and stringing the cableways thereon.

Having thus described our invention, we claim:

1. In an elevated railway car, the combination with upper and lower cableways, of a car body, car sections connected with the car body and having the car body interposed therebetween, upper trucks carried by the car sections to operate over the upper cableways, and lower trucks carried by the

car sections to operate over the lower cableways.

2. In an elevated railway car, the combination with upper and lower cableways, of a car body, car sections connected with the car body and having the car body interposed therebetween, upper trucks carried by the car sections to operate over the upper cableways, lower trucks carried by the car sections to operate over the lower cableways, and driving means carried by the car body for driving the wheels of the said upper and lower trucks to advance the car body and car sections over the cableways.

3. In an elevated railway car, the combination with upper and lower cableways, of a car body, car sections removably connected to the car body with the car body interposed therebetween, and trucks carried by the car sections and engaging the upper and lower cableways to support the car body and said sections on the cableways.

4. In an elevated railway car, the combination with upper and lower cableways, of a car body interposed between the upper and lower cableways, car sections carried by the car body, and trucks carried by the car sections and engaging the cableways to support the car body and said sections between the upper and lower cableways.

5. In an elevated railway car, the combination with a car body, of car sections connected thereto, upper cushion members supported over the roofs of the car sections, lower cushion members carrying the said car sections, upper trucks supported on the said upper cushion members, and lower trucks carrying and supporting the said lower cushion members.

6. In an elevated railway car, the combination with a plurality of car sections, of a car body interposed between the sections and connecting the same, lower trucks, adapted to operate over lower cableways, cushion members supported on the said trucks and having connection with the car sections to support the car sections and the said car body on the said lower trucks, upper trucks adapted to operate over upper cableways, and cushion members carried by the said car sections and supporting the said upper trucks overhead of the said car sections.

In testimony whereof we affix our signatures in presence of two witnesses.

BENNETT B. ALLEN.
CLEMENT H. SULLIVAN.

Witnesses:

LESTER C. MAXEY,
J. W. GIBSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."