W. A. WOOD & C. W. KAHLERTH.

FALL ROPE CARRIER.

APPLICATION FILED JAN. 8, 1909.

944,118. Patented Dec. 21, 1909.

Fig. 1

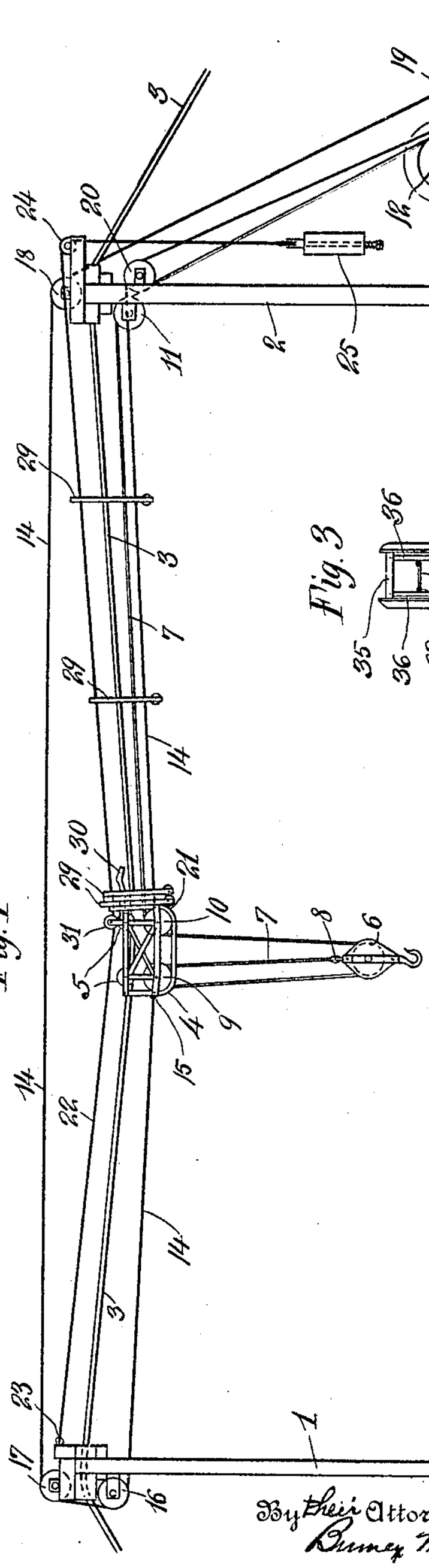


Fig. 2

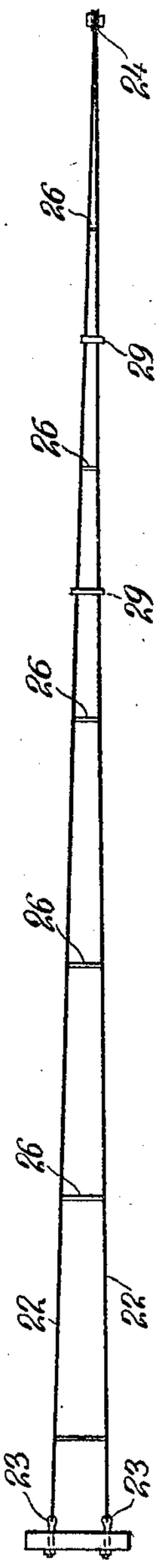


Fig. 3

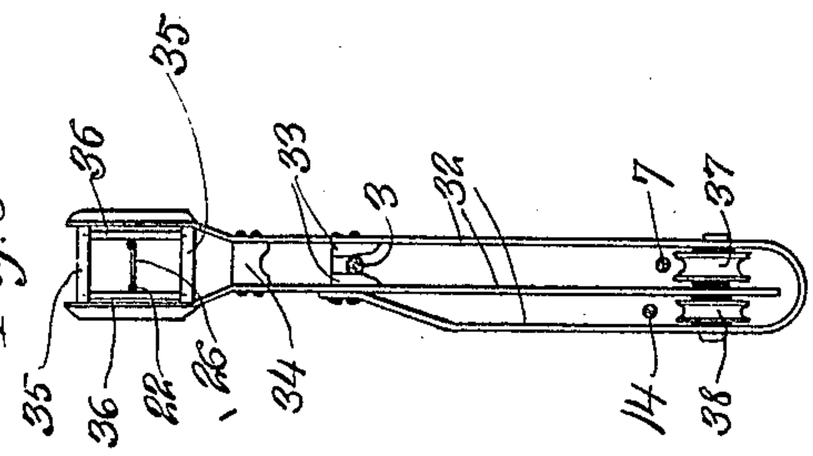


Fig. 4

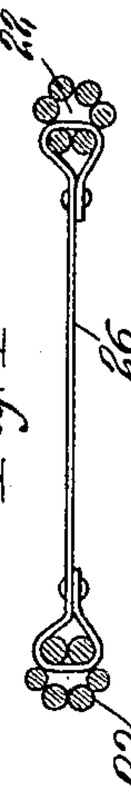


Fig. 5

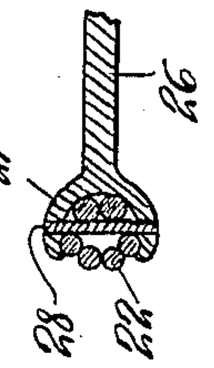
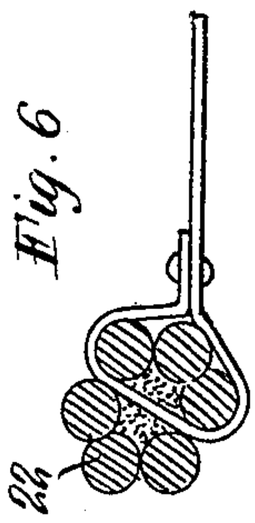


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLIAM ALEXANDER WOOD AND CHARLES WEINTRITT KAHLERTH, OF NEW YORK, N. Y.

FALL-ROPE CARRIER.

944,118. Specification of Letters Patent. **Patented Dec. 21, 1909.**

Application filed January 8, 1909. Serial No. 471,315.

To all whom it may concern:

Be it known that we, WILLIAM ALEXANDER WOOD, a citizen of the United States, and CHARLES WEINTRITT KAHLERTH, a subject of the Emperor of Austria-Hungary, both residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Fall-Rope Carriers and in Spacing Fall-Rope Carriers on Cableways, of which the following is a specification.

The invention relates to improvements in fall-rope carriers and in spacing them on cableways, having particular relation to means for spacing, wherein the carriers are spaced or distributed along a substantially horizontal cableway without being brought to an abrupt stop, as has hitherto been the case.

In the following we have described in connection with the accompanying drawings, an apparatus illustrating one form of our invention, the features thereof being more particularly set forth hereinafter in the claims.

In the drawings, Figure 1 is a side elevation of a cableway showing our invention in connection therewith. Fig. 2 is a plan view of the fall-rope carrier ropes removed from the cableway. Fig. 3 is a front elevation of a fall-rope carrier showing the various cables in section. Fig. 4 is a view partly in section showing one means of fastening the spreaders to the fall-rope carrier ropes, and Figs. 5 and 6 are details showing modifications of the means for fastening the spreaders to the fall-rope carrier ropes.

Similar numerals indicate similar parts throughout the several views.

1 indicates the tail tower and 2 indicates the head tower of the cableway.

3 indicates the main cable passing over suitable saddles (not shown) near the tops of the towers and guyed back at each end to suitable deadmen (not shown) in the well known manner.

4 represents a carriage of any suitable description suspended by means of wheels 5, 5, from the main cable 3.

6 represents the fall-block to which the load to be carried may be attached.

7 is the hoisting line or fall-rope attached at one end as 8, to fall-block 6 and passing over sheave 9 on carriage 4, thence around the sheave of fall-block 6, thence over sheave 10 on carriage 4, thence over sheave 11 on head tower 2 to hoisting drum 12 of the cableway engine 13.

14 is the conveying rope attached at one end as 15, to carriage 4, passing over sheaves 16 and 17 on tail tower 1 and sheave 18 on head tower 2 around conveying rope drum 19 of the cableway engine 13, thence over sheave 20 on head tower 2, back to carriage 4 where the other end is fastened at any suitable point as 21.

22, 22 are the fall-rope carrier ropes spaced apart at one end, as for instance, at the tail tower end, and fastened to the tail tower by suitable eyes or clamps 23, 23. Fall-rope carrier ropes 22, 22, incline toward each other from one end to the other, as from the tail tower to the head tower end, coming together and passing over a sheave 24 on the head tower 2 and are provided with a counterweight 25.

26, 26, are spreaders inserted between fall-rope carrier ropes 22, 22, at predetermined intervals, each being a little longer than the one next to it, beginning at the right and going toward the left in Fig. 2, so that fall-rope carrier ropes 22, 22, are spaced apart from each other in the form of a narrow wedge or of an elongated V and held in that position. The spreaders 26 are preferably flat iron straps passed through the strands of fall-rope carrier ropes 22, 22, as shown in Figs. 4 and 6, and riveted back upon themselves to form a substantially rigid structure. The spreaders 26 may be provided with jaws 27 passing partially around fall-rope carrier ropes 22, and riveted thereto by a suitable rivet 28. In either case it is desirable that the outside and the top of fall-rope carrier ropes 22, 22, should be perfectly free and clear of any obstruction.

29, 29, represent the fall-rope carriers, some of them being spaced or distributed along the cableway and some of them being supported on horn 30 on carriage 4, not having yet been distributed. Horn 30 is preferably made vertically adjustable in

any convenient way so that it may be maintained in substantially uniform relationship to main cable 3.

31 is a guide pulley on carriage 4 adapted to travel on fall-rope carrier ropes 22, 22, and having a face as wide as the widest portion of the spread of fall-rope carrier ropes 22, 22.

The fall-rope carriers 29 as shown in Fig. 3, are preferably made of iron straps 32, 32 spaced apart by blocks 33 and 34, block 33 forming a saddle adapted to rest on the main cable 3 from which cable the fall-rope carrier is supported when in use, and block 34 being adapted to form a saddle to take over horn 30. The top or guide head portion of the fall-rope carriers 29 is spaced apart by pins 35, 35, in which are journaled vertically arranged rollers 36, 36, adapted to act as roller bearings when fall-rope carrier ropes 22, 22, are in contact therewith.

37 is a sheave over which passes hoisting rope 7, and 38 a sheave over which passes conveying rope 14. The guide head or top portion of each fall-rope carrier is of different width from each of the others, the narrowest being farthest to the right so that as carriage 4 travels from head tower 2 toward tail tower 1, the guide heads of the fall-rope carriers will ride over the fall-rope carrier ropes 22, 22, and space or distribute the fall-rope carriers thereon, the fall-rope carrier having the narrowest head or guideway being left nearest head tower 2.

The operation of the device is as follows: With the carriage 4 close up to the head tower 2 all of the fall-rope carriers will be in position on horn 30. As the carriage travels along the cable from right to left, the fall-rope carrier 29 having the narrowest guide head will be clamped or braked by fall-rope carrier ropes 22, 22, just beyond the first spreader 26 and pulled from horn 30, the other fall-rope carriers being spaced in like manner beyond the other spreaders, as the carriage 4 moves along the cable, the gradual spreading of the fall-rope carrier ropes, maintained in fixed relationship to each other by spreaders 26, 26, clamping or braking the guide heads of the fall-rope carriers as described. By this means the fall-rope carriers are gradually clamped or braked so as to space them on the main cable 3 as desired without bringing them to an abrupt stop and thus suddenly jerking them off the horn 30. When the carriage 4 is moving very rapidly, such jerking off of the fall-rope carriers is apt to break them as well as causing other injury. As the carriage 4 moves from left to right, horn 30 passes under block 34 on fall-rope carriers 29 and picks the fall-rope carriers up serially until they are all in position again on the horn 30.

It is obvious that the details of construction may be considerably varied without departing from the spirit of invention, and we do not restrict ourselves to the details shown and described.

What we claim and desire to secure by Letters Patent of the United States is:

1. In a cableway, fall-rope carrier ropes spaced from each other by a gradually increasing interval and spreaders between said ropes to hold them in position.

2. In a cableway, fall-rope carrier ropes spaced from each other by a gradually increasing interval and spreaders fastened in the strands of said ropes and extending between them to keep the ropes in a predetermined position.

3. In a cableway, a main cable, fall-rope carriers adapted to be supported thereon, ropes spaced from each other by a gradually increasing interval, spreaders between said ropes to hold them in position and means associated with said fall-rope carriers whereby said carriers are limited in their movement by said ropes.

4. In a cableway, fall-rope carriers, a guide head on each of said carriers, each of said guide heads being wider than that on one side and narrower than that on the other side thereof, and ropes running through said guide heads and spaced from each other by a gradually increasing interval whereby the movement of said guide heads is limited.

5. In a cableway, fall-rope carriers, a guide head on each of said carriers, each of said guide heads being wider than that on one side and narrower than that on the other side thereof, vertically arranged roller bearings in said guide heads, and ropes running through said guide heads and spaced from each other by a gradually increasing interval whereby the movement of said guide heads is limited.

6. In a cableway, fall-rope carrier ropes fastened to a tower at one end and counterweighted at the other end, said ropes being spaced from each other from the counterweighted end outward by a gradually increasing interval and spreaders between said ropes to hold them in a predetermined position.

7. In a cableway, fall-rope carrier ropes extending in substantially the same horizontal plane and spaced from each other by a gradually increasing interval, fall-rope carriers adapted to be supported thereon and means associated with said fall-rope carriers whereby said carriers are limited in their movement by said ropes.

8. In a cableway, fall-rope carrier ropes extending in substantially the same horizontal plane and spaced from each other by a gradually increasing interval, means for

holding said ropes in position with relation to each other, fall-rope carriers adapted to be supported on said ropes and means associated with said fall-rope carriers whereby said carriers are limited in their movement by said ropes.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

WILLIAM ALEXANDER WOOD.
CHARLES WEINTRITT KAHLERTH.

Witnesses:
ANNA D. GRAULICH,
K. G. LEARD.