

No. 620,596.

Patented Mar. 7, 1899.

C. A. LOWER.  
TROLLEY DEVICE FOR KITES.

(Application filed May 7, 1898.)

(No Model.)

Fig. 1.

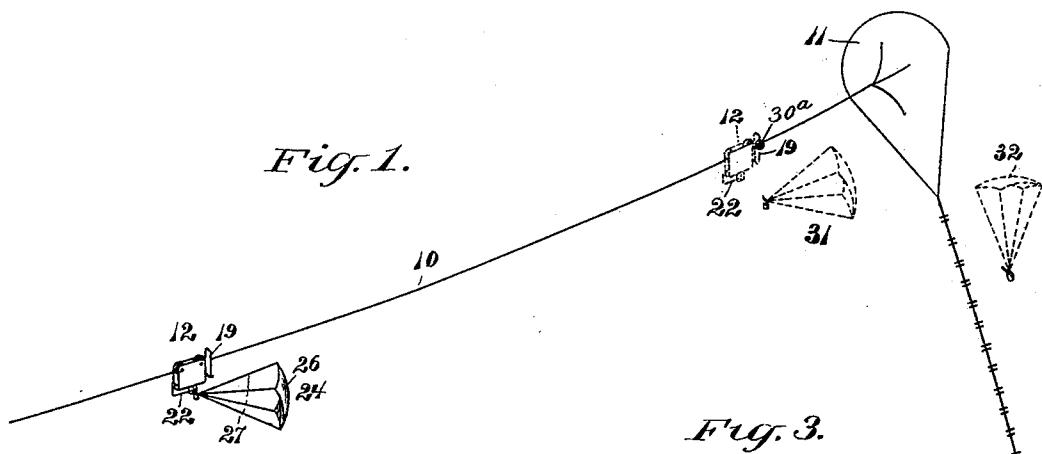


Fig. 3.

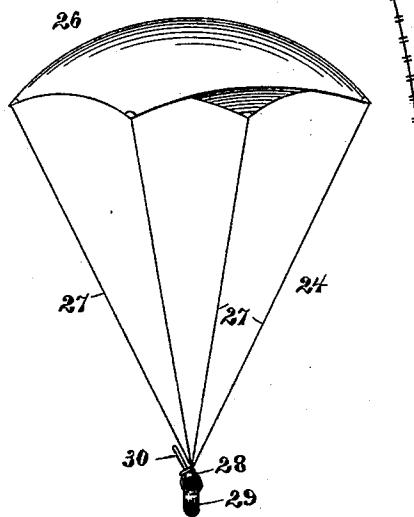


Fig. 2.

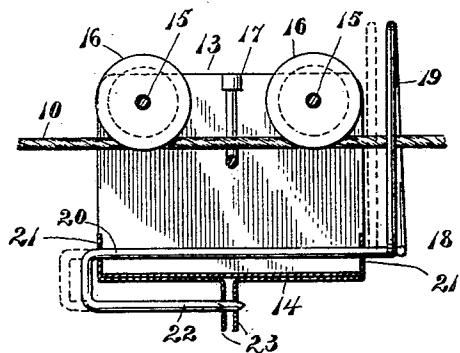
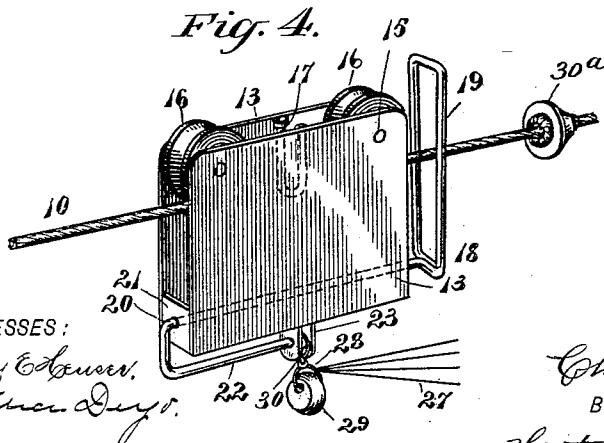


Fig. 4.



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# UNITED STATES PATENT OFFICE.

CHARLES A. LOWER, OF MARION, INDIANA.

## TROLLEY DEVICE FOR KITES.

SPECIFICATION forming part of Letters Patent No. 620,596, dated March 7, 1899.

Application filed May 7, 1898. Serial No. 680,008. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. LOWER, of Marion, in the county of Grant and State of Indiana, have invented certain new and useful 5 Improvements in Trolley Devices for Kites, of which the following is a full, clear, and exact description.

This invention relates to elevating devices, but more particularly to a trolley device for 10 elevating parachutes and like articles.

The primary object of the invention is to provide simple and efficient means whereby 15 a trolley or carrier may be automatically drawn or forced along an inclined track or way by a parachute and when at the desired elevation the parachute may be automatically released to permit the trolley or carrier to return to the starting-point.

Another object is to provide a suitable kite 20 the string or cord of which forms a track along which the trolley or carrier is adapted to run, and when at a convenient distance from the kite the article attached to the trolley may be automatically released, so that 25 the trolley may return by gravity to the starting-point ready to receive another article which is to be elevated.

A further object is to provide a trolley having simple and efficient means for holding an 30 article while being elevated or to permit the article to be released when at the desired height.

The invention will be hereinafter more particularly described with reference to the accompanying drawings, forming a part of this 35 specification, and then pointed out in the claims at the end of the description.

In the drawings, wherein similar figures of reference designate similar parts, Figure 1 is 40 a general perspective view of one form of device embodying my invention, illustrating in dotted lines the position of the trolley or carrier immediately that the parachute has been released and in other dotted lines the parachute 45 in position to sail or float away. Fig. 2 is a longitudinal section through the frame or casing of the trolley or carrier. Fig. 3 is an elevation of the parachute in its sailing or floating position, and Fig. 4 is a perspective view of the trolley or carrier in the position it assumes while running along the cord or track.

The string or cord 10 may be held at one end in the hand of the operator and the other end attached to a suitable kite 11, by which 55 the string or cord may be elevated to any desired height, so as to form an inclined track or way upon which the trolley or carrier 12 is adapted to run. This trolley or carrier may have its frame formed of two side plates 60 13, suitably connected by a base 14, and in the side plates 13 are arranged bolts or studs 15, on which are journaled grooved pulleys or wheels 16, which rest upon the cord and form the support for the various parts of the 65 trolley or carrier. Between the side plates 13 of the frame may be arranged a U-shaped guide 17, which passes under the cord or string and assists in preventing the latter from leaving the pulleys by reason of slack 70 in the cord or from other causes.

For the purpose of holding the article to be elevated while the trolley or carrier moves along the track or cord I provide a suitable retaining device, as 18, which is movably 75 held in the frame of the trolley. This retainer 18 has an upright rectangular portion 19, adapted to span the cord or string 10, and has a horizontally-arranged L-shaped portion 20, which is slidably held in ears or lugs 21, 80 formed as a part of the base 14 or secured to said base, as desired. The L-shaped portion 20 has its lower end 22 adapted to pass through apertures in the pendent ears or brackets 23, secured to the base 14 or other portion of the 85 frame, so as to hold the end of a suitable parachute, as 24, or other article between the ears or brackets 23, as shown in Fig. 4.

The parachute 24 may be of any suitable form and of any desired material, and upon 90 the body portion thereof may be arranged any suitable character or characters for advertising or other purposes. As shown, the parachute has a rectangular body portion 26, which has the corners thereof connected by 95 the strings 27 to a wire loop 28, which passes through and is movable in an aperture in a suitable weight 29, said wire having an eye 30, Figs. 3 and 4, adapted to pass over the end 22 of the retainer 18, so that when the 100 parachute is arranged as in Figs. 1 and 4 the wind, striking against the body portion 26 of the parachute, will exert its lifting force lengthwise of the string and will elevate the

carrier or trolley and the parachute until the same reaches the desired point.

A suitable stop 30<sup>a</sup> is arranged on the cord or string 10 at a convenient distance from the kite 11, so that as the trolley or carrier is elevated by the parachute the portion 19 of the retainer 18 will engage the stop and will force the retainer to the position shown in dotted lines in Fig. 2, thus releasing the parachute, so that the latter may sail or float away, as shown in Fig. 1, and the trolley or carrier 12 be permitted to return by gravity to its starting-point.

The construction and operation of the invention will be readily understood from the foregoing description when taken in connection with the accompanying drawings.

Assuming the cord or string 10 to be elevated by a kite so as to form an inclined track and the trolley placed thereon so as to hold the parachute, as already described, it will be seen that the trolley or carrier 12 will be caused to travel along the track until the portion 19 of the retainer 18 engages the stop 30<sup>a</sup>. The impetus given to the trolley or carrier in its ascent will be sufficient when it engages the stop to cause the retainer 18 to be shifted in the frame of the carrier to the position shown by dotted lines in Fig. 2, so as to remove the end 22 of the retainer from the eye or loop 30 of the parachute, thus releasing the latter, as shown in dotted lines at 31 in Fig. 1. The weight 29 will now act upon the body 26, and the eye 28 will shift in the aperture in the weight 29, so as to cause the parachute to assume a vertical position in order that the parachute may sail or float away, as shown in dotted lines at 32 in Fig. 1. The trolley as soon as the parachute is released will automatically return by gravity to its starting-point, so that another parachute may be attached thereto.

I thus provide simple and efficient means whereby a parachute or like article may serve as a means to elevate a carrier or trolley to a desired height and then be automatically released, so that the trolley or carrier may return to its starting-point in position to receive another article.

It will be understood that the term "parachute" is used in its broadest sense to include any detachable article that may be employed to automatically elevate the carrier or

trolley, that instead of the string 10 being suspended by a kite and forming a track for the trolley a wire or other suitable connection may be attached to some elevated point, so as to form an inclined track upon which the carrier may travel, and that some of the parts may be dispensed with or others substituted therefor without departing from the spirit of my invention.

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

1. In a device of the character described, the combination with a suitable track, of a trolley or carrier movable back and forth along said track and comprising a suitable frame, pulleys journaled in the frame and adapted to roll upon the track, a longitudinally-movable retainer having an upright portion adapted to span the track and come in contact with an object in the path of movement of the carrier, and an L-shaped portion slidingly held in the frame and having its end adapted to engage a portion of the frame to hold a parachute so as to move therewith or be released therefrom when the retainer is shifted in its bearings, said parachute serving as a means to elevate the carrier along the said track, substantially as described.

2. In a device of the character described, a trolley or carrier, comprising a frame having side plates and pendent brackets, pulleys journaled between the side plates and adapted to roll along a suitable track, a suitable guide interposed between the pulleys and adapted to assist in preventing the pulleys from slipping from the track, a movable retainer having an upright portion spanning the track and adapted to come in contact with an object arranged in the path of movement thereof, and a longitudinally-arranged L-shaped portion slidingly held in the frame and having one end thereof adapted to move in apertures in the pendent brackets to hold the object to the carrier so as to move therewith or be released therefrom when the retainer is shifted in its bearings, substantially as described.

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Witnesses:

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