

No. 609,273.

Patented Aug. 16, 1898.

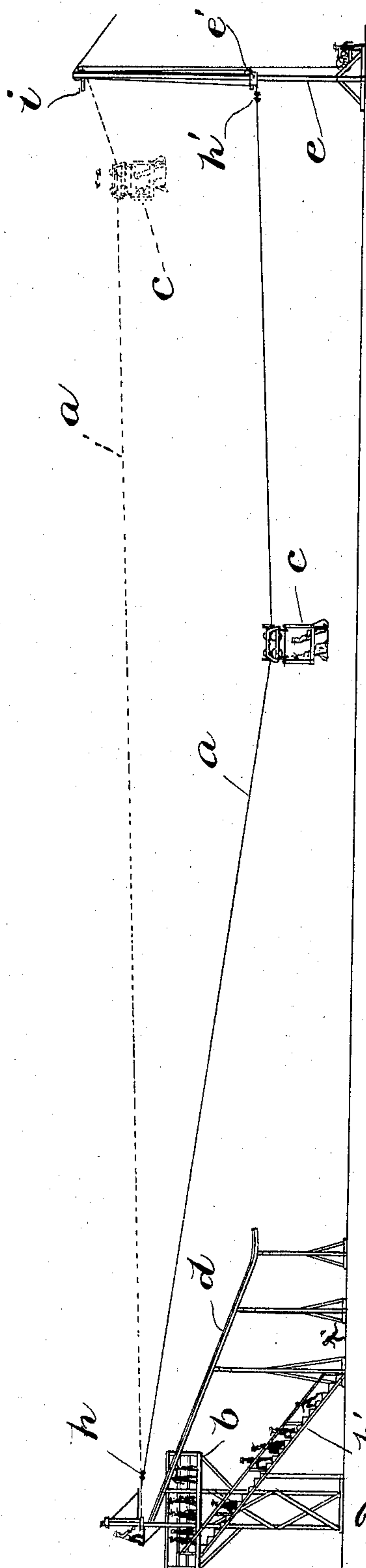
W. H. GILMAN.  
AERIAL CONVEYER.

(Application filed Nov. 1, 1897.)

(No Model.)

3 Sheets—Sheet 1.

FIG. 1.



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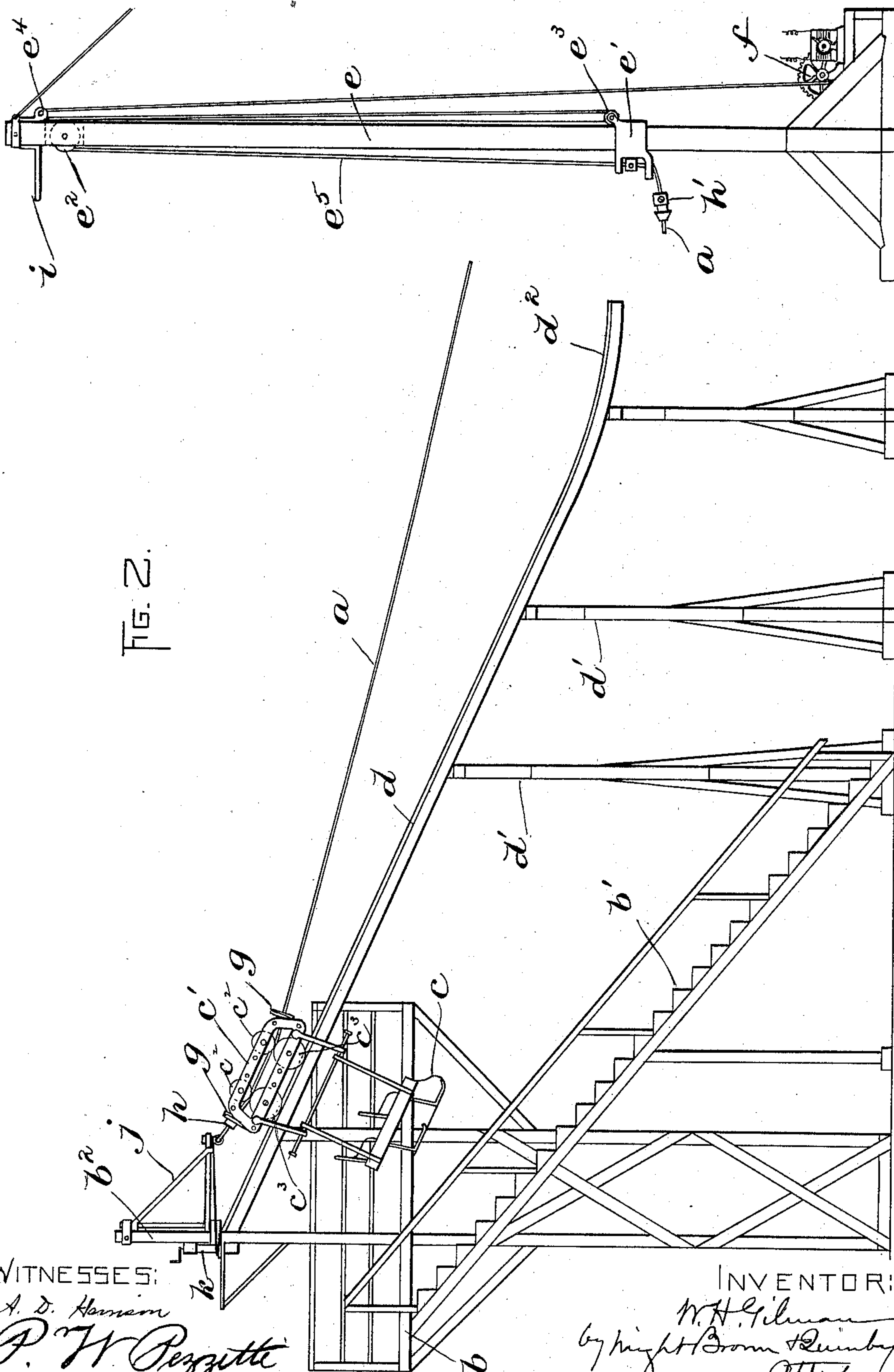
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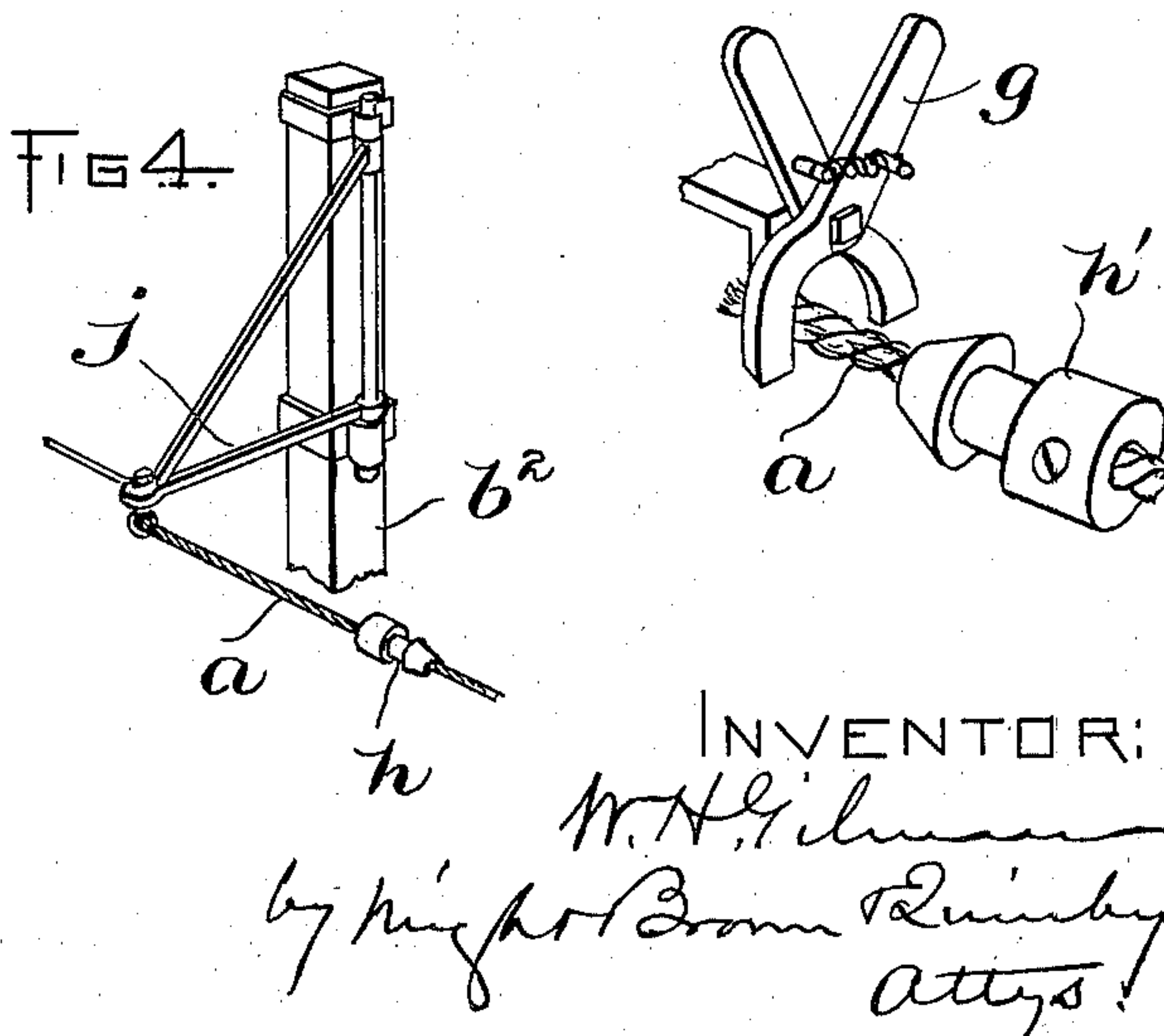
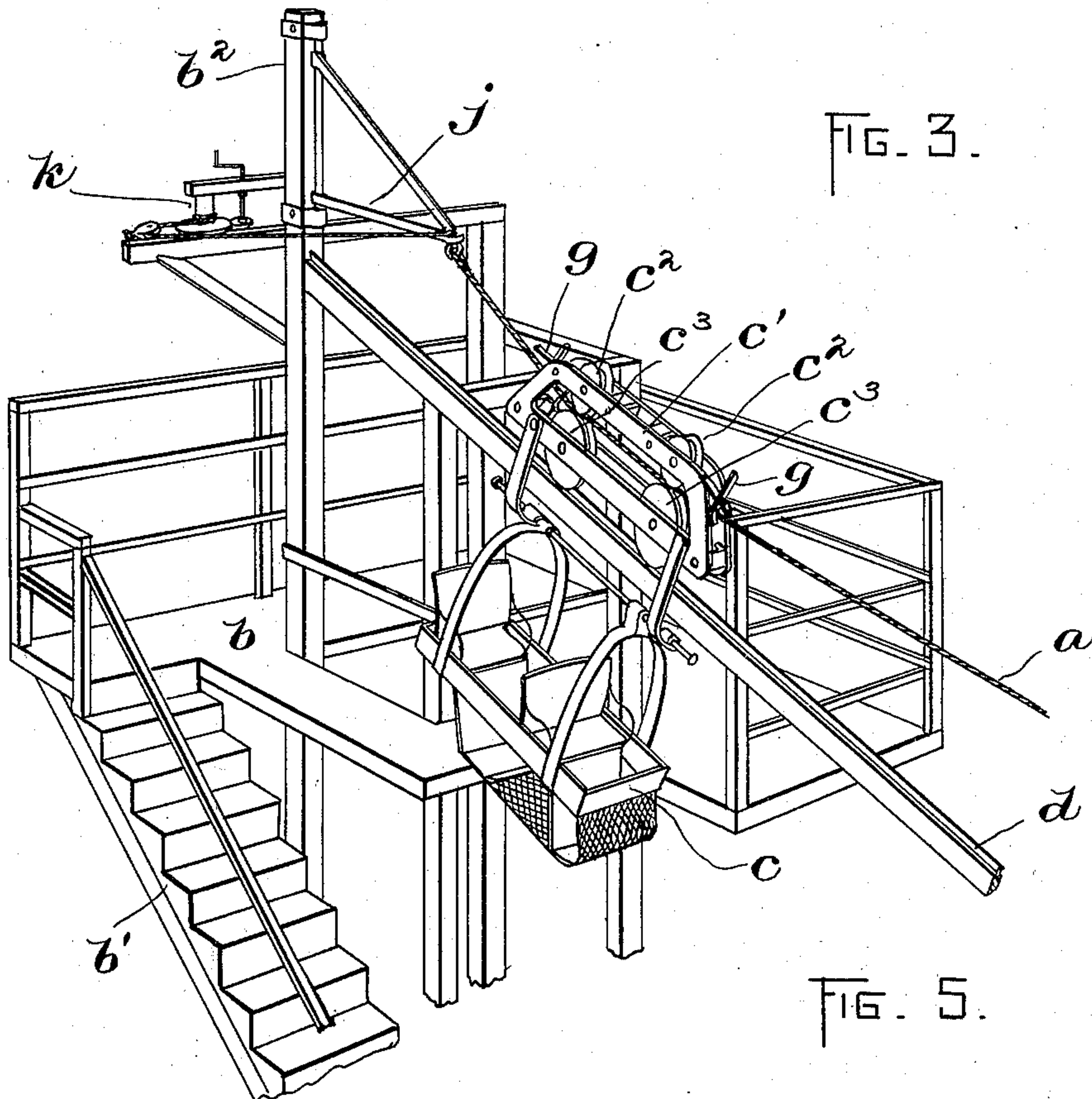
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# UNITED STATES PATENT OFFICE.

WILLARD H. GILMAN, OF BOSTON, MASSACHUSETTS.

## AERIAL CONVEYER.

SPECIFICATION forming part of Letters Patent No. 609,273, dated August 16, 1898.

Application filed November 1, 1897. Serial No. 656,988. (No model.)

*To all whom it may concern:*

Be it known that I, WILLARD H. GILMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Aerial Conveyers, of which the following is a specification.

This invention relates to an improved system of transportation or conveyance suitable for purposes of recreation and pleasure.

The invention consists in certain features of novelty in construction and arrangement, which I shall now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a conveying apparatus constructed in accordance with my invention. Fig. 2 represents a side elevation, on a larger scale, of the two end portions of the apparatus. Fig. 3 represents a perspective view of the arrangements at the starting end of the line, showing the car in position for starting. Figs. 4 and 5 are detail perspective views which will be hereinafter referred to.

The same reference characters indicate the same parts or features in all the figures.

In carrying out my invention I suspend a rope or cable between two points a suitable distance apart and run a car capable of holding one or more persons back and forth on this cable. At one end of the line an inclined track is arranged, down which the car is run to give it a start along the cable, its momentum carrying it to the other end of the cable, where a suitable receiving device is located. This end of the cable is then raised to a higher level, so as to give the cable an incline in the direction of the starting-point, and the car is run back to the starting-point.

Referring to the drawings, *a* designates a cable, preferably composed of steel wire and suspended between two adequately-braced standing structures, the one at the starting-point consisting principally, as here shown, of a platform *b*, affording accommodations for loading and unloading passengers, a stairway *b'* giving access to the platform, and suitable arrangements hereinafter described for receiving and starting the car.

*c* designates the car, which is suspended from a truck *c'*, having an upper set of wheels *c<sup>2</sup> c<sup>2</sup>* and a lower set *c<sup>3</sup> c<sup>3</sup>*, the wheels of the

upper set being grooved and running on the cable *a*. Those of the lower set are also grooved and are adapted to run on an inclined track *d*, arranged on supports *d' d'* below the starting end of the cable. The other end of the cable *a* is attached to a sliding block *e'*, which is adapted to slide up and down a pole *e*, which constitutes one of the supporting structures for the cable. The sliding block *e'* is supported by a rope or cable *e<sup>5</sup>*, which may be a continuation of the cable *a* and which passes around pulleys *e<sup>2</sup> e<sup>3</sup> e<sup>4</sup>* and around the drum of a hoisting-winch *f*. By means of the winch *f*, which is operated by a suitable motive power, the block *e'* may be raised to the top of the pole, so as to bring the cable *a* to the dotted-line position shown in Fig. 1, or may be allowed to descend, so as to bring the cable to the position shown in full lines in Figs. 1 and 2. When the sliding block is in its depressed position, the cable has an inclination or slope downwardly toward the pole *e*, so that the car *c*, if free to move, will tend to run by the force of gravity toward the pole *e*. When the block is in its raised position, the cable is inclined in the opposite direction, and the car will tend to run toward the platform *b*.

When my conveying apparatus is put in operation, the car is first placed in the position shown in Figs. 2 and 3, with the wheels *c<sup>3</sup> c<sup>3</sup>* on the track *d* at the upper end of the latter. When the car has received its load of passengers, it is released, and its weight causes it to run down to the end of the track *d* and out on the cable. The momentum acquired by the car in running down the track carries it to the other end of the cable, where suitable receiving devices are located, as I shall presently describe. The cable *a* has sufficient slack to allow the wheels *c<sup>3</sup>* of the car-truck to remain on the track *d* throughout the whole length of the latter. The lower end *d<sup>2</sup>* of said track is preferably curved toward the horizontal, as shown in Figs. 1 and 2. When the car reaches this point, the direction of its motion is changed, and it is given a slight upward throw just as it leaves the track. The result is that the car travels along the cable with an undulating motion, which gives a pleasing sensation to the passengers.



The car-truck, as here shown, is provided at each end with spring catch-tongs *g g*, one of which is shown in detail in Fig. 5, arranged in proximity to the cable *a*. These catch-tongs are adapted to become automatically engaged with recessed catch-blocks *h h'*, one at each end of the cable *a*. By reason of the amount of inclination and the slack of the cable the car *c* loses its momentum as it approaches the post *e* on the outward journey, and it stops against the catch-block *h'* with very little impact. The catch-tongs *g* at the forward end of the car become engaged with the recess in the block *h'*, and the car is thereby held at this end of the line until released. As soon as the car has reached the end of its outward journey the hoisting-winch *f* is put in operation, and the car and cable are raised to the top of the pole *e*, as indicated by the dotted lines in Fig. 1. Arrangements are here shown for releasing the car as soon as it is thus raised, the said arrangements consisting of a horizontal arm or trip *i*, situated at the top of the pole and adapted to enter between the arms of the catch-tongs *g* as they are pressed up against the trip, causing their operating ends to separate and become disengaged from the block *h'*. The car is thereby released, and the force of gravity causes it to return along the cable toward the starting-platform *b*. When it reaches the starting-point, the catch-tongs *g* on the rear end of the car become engaged with the block *h*, and the car is restrained from further motion until again released. I provide means for displacing the starting end of the cable *a* from its normal position above the track *d* just before the car starts on its return journey in order that said track may not interfere with the car on its return. These means consist, as here shown, of a swinging arm *j*, hinged to a post *b<sup>2</sup>*, and a winch *k* for swinging said arm into or out of the vertical plane of the track *d*. When the arm *j* is swung aside, as shown in Fig. 4, the end of the cable is displaced from its position above the track, and the car has a free path along the cable up to the catch-block *h*. When the passengers have disembarked, the arm *j* is swung back into the plane of the track and a fresh load of passengers taken on. An attendant then releases the catch-tongs *g*, and the car is started on its journey, as above described.

It will be readily understood that the passenger loading and unloading arrangements could be placed at the other end of the line, if desirable or convenient, and that numerous other variations in structure and arrangements could be made without departing from the spirit and nature of my invention.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. A system of conveyance comprising a flexible cable having suitable supports, a car adapted to run on said cable under the influence of gravity, a stationary rigid inclined track down which the said car is adapted to run to give it an initial impulse, said cable being slack to impart an undulating motion to the car while traveling thereon, and means for suddenly changing the direction of movement of the car as it leaves the rigid track.

2. A system of conveyance comprising a cable, a car adapted to run on said cable under the influence of gravity, and a stationary rigid inclined track down which said car is adapted to run to give it an initial impulse, the said track being curved toward the horizontal at its lower end, and the cable being slack, whereby the car is caused to undulate while traveling on the cable.

3. A system of conveyance comprising a cable adapted to be held at a fixed height at one end, means for raising and lowering the other end so as to alternately hold said end at a higher and at a lower level than the fixed end, a car adapted to run back and forth on said cable under the influence of gravity, and a stationary rigid inclined track arranged at the fixed end of the cable, and adapted to give the car an initial impulse along the cable.

4. A system of conveyance comprising a cable suspended between two points at a suitable distance apart, one of which points is raised above the other, a track arranged below the raised end of the cable, and having a steeper inclination than the general inclination of the cable, and a car adapted to run down said track and along the cable, the latter having sufficient slack to enable the car to follow the inclined track for a distance before being supported wholly by the cable.

5. A system of conveyance comprising an inclined track, a cable extending from a point adjacent to the upper end of the track to a point beyond the lower end of the track, and means for displacing the portion of the cable over the track from its normal position, for the purpose specified.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 30th day of October, A. D. 1897.

WILLARD H. GILMAN.

Witnesses:

HORACE BROWN,  
A. D. HARRISON.