B. B. CHOATE.

Elevated Ways.

No. 150,287. Patented April 28, 1874.

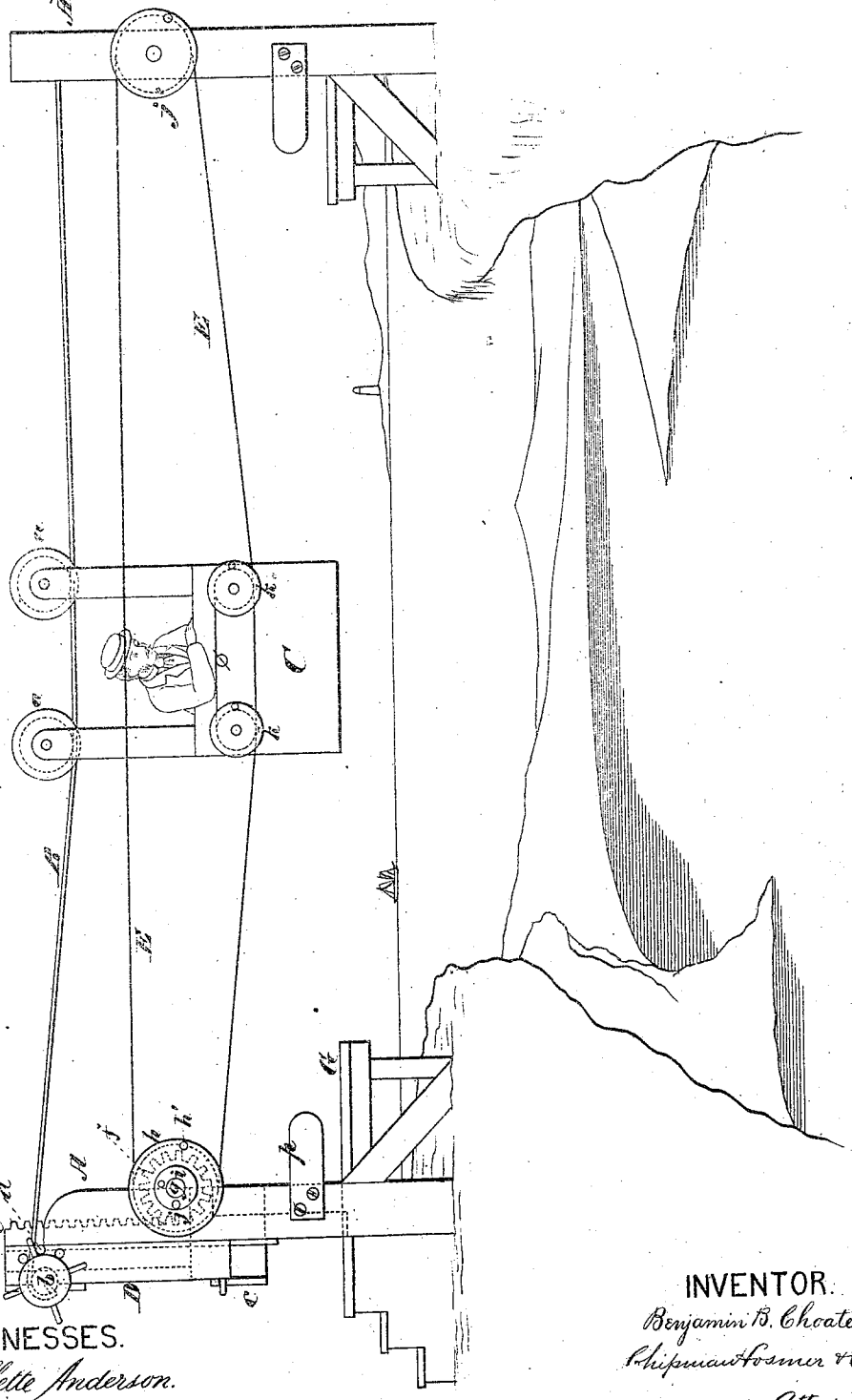

Fig. 1.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

BENJAMIN B. CHOATE, OF SPRINGFIELD, VERMONT.

## IMPROVEMENT IN ELEVATED WAYS.

Specification forming part of Letters Patent No. 150,287, dated April 28, 1874; application filed October 25, 1873.

*To all whom it may concern:*

Be it known that I, BENJAMIN B. CHOATE, of Springfield, in the county of Windsor and State of Vermont, have invented a new and valuable Improvement in Suspension-Cars; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of my suspension-car in operation.

The object of my invention is to provide for safely crossing rivers and chasms by means of a carriage which is suspended from a wire stretched between posts located on opposite sides of the chasm, said carriage being moved from one post to the other by inclining the wire, or by means of an endless rope which is carried around pulleys on the posts, and also around pulleys on the carriage, as will be hereinafter explained.

The following is a description of my invention:

In the annexed drawings, A A′ represent two posts, which are arranged on opposite sides of a chasm, and properly braced, so as to maintain their positions firmly against any strain which they may be subjected to. B represents one or more wires, which are stretched between the two posts A A′, and from which wires a car, C, is suspended by means of flanged rollers *a a*. At one end the wires B are immovably secured to the post A′, and at their opposite ends they are secured to a tightening-drum, *b*, having its bearings in a vertically-adjustable block, D, on post A. The block D is connected to the post A by means of tongues and grooves and a clasp, *c*. One end of the drum *b* has radial arms fixed into it, by means of which it can be turned when it is desired to tighten the wire or wires B, and by means of a removable stop-pin, *d*, inserted into one of several holes in block D, the drum is prevented from turning back. A vertical rack, *e*, is secured to the block D, and received into a slot made through post A. The teeth of this rack *e* engage with a spur-wheel, *f*, which is keyed on a shaft, *g*, having its bearings in the post A. On one end of the spur-wheel shaft *g* a grooved pulley, *h*, is loosely applied, having a crank-handle, *h′*, fixed into its face, by which it can be turned conveniently. Outside of the pulley *h*, and keyed on the shaft *g*, is a circular clutch-plate, *i*, having a hole through it to receive a pin, *j*, which is inserted through this plate and into the pulley *h* when it is desired to engage this pulley with its shaft, for the purpose of depressing the block D. An endless rope, E, is applied around the pulley *h*, and carried across the chasm, and passed around another grooved pulley, *j′*, which is applied to the post A′, and to which a crank-handle is fixed. The rope E is connected to the car C by passing it around two grooved pulleys, *k k*, applied to the back of this carriage, which pulleys have crank-handles fixed to them.

In practice I shall employ, either on post A or carriage C, a device for tightening the endless rope E.

When the posts A A′ are of considerable height, I employ platforms with steps leading up to them. G represents one of these platforms applied at the post A, and constructed so as to afford easy access to the carriage C when moved up to said post. When the carriage C is in the position last named, it is steadied and prevented from swinging back by means of a curved stop, *p*, which is secured to the post A.

It will be seen from the above description that the carriage can be moved from one post to the other on the wire or wires B by turning the pulley *h* or the pulley *j′*, or either one of the pulleys *k k*.

If it is desired to send the carriage from the post A′ to the post A without turning either one of the pulleys, this can be done by lowering the block D so as to incline the suspension-wires; and by having the suspension-wires connected at both ends to vertically-adjustable blocks D, the carriage can be sent back and forth by inclining the said wires.

If a person desires to cross from post A to post A′ and return, he can do so by inserting the pin *j* through plate *i* and pulley *h* before he starts, and working his way over by turning the pulleys *k*. To return he can incline the wires B by pulling on the upper part of the endless rope E, and thus lowering the

block D and that end of the wires which are attached to it.

It is obvious that my improvements might be erected in parks and other places, where they would afford a source of amusement to children and others.

What I claim as new, and desire to secure by Letters Patent, is—

1. The endless rope E, connected to the suspended carriage C by means of pulleys *k k*, and passed around pulleys *h j'* and posts A A', the pulley *h* being applied on the shaft *g* of the spur-wheel *f*, and having combined with it a clutch-plate, *i*, and clutch-pin *j*, as and for the purposes explained.

2. The stop *p*, applied to post A opposite the platform G, for the purpose described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

BENJAMIN B. CHOATE.

Witnesses:

HENRY CLOSSON,

GEO. W. FOGGETT.