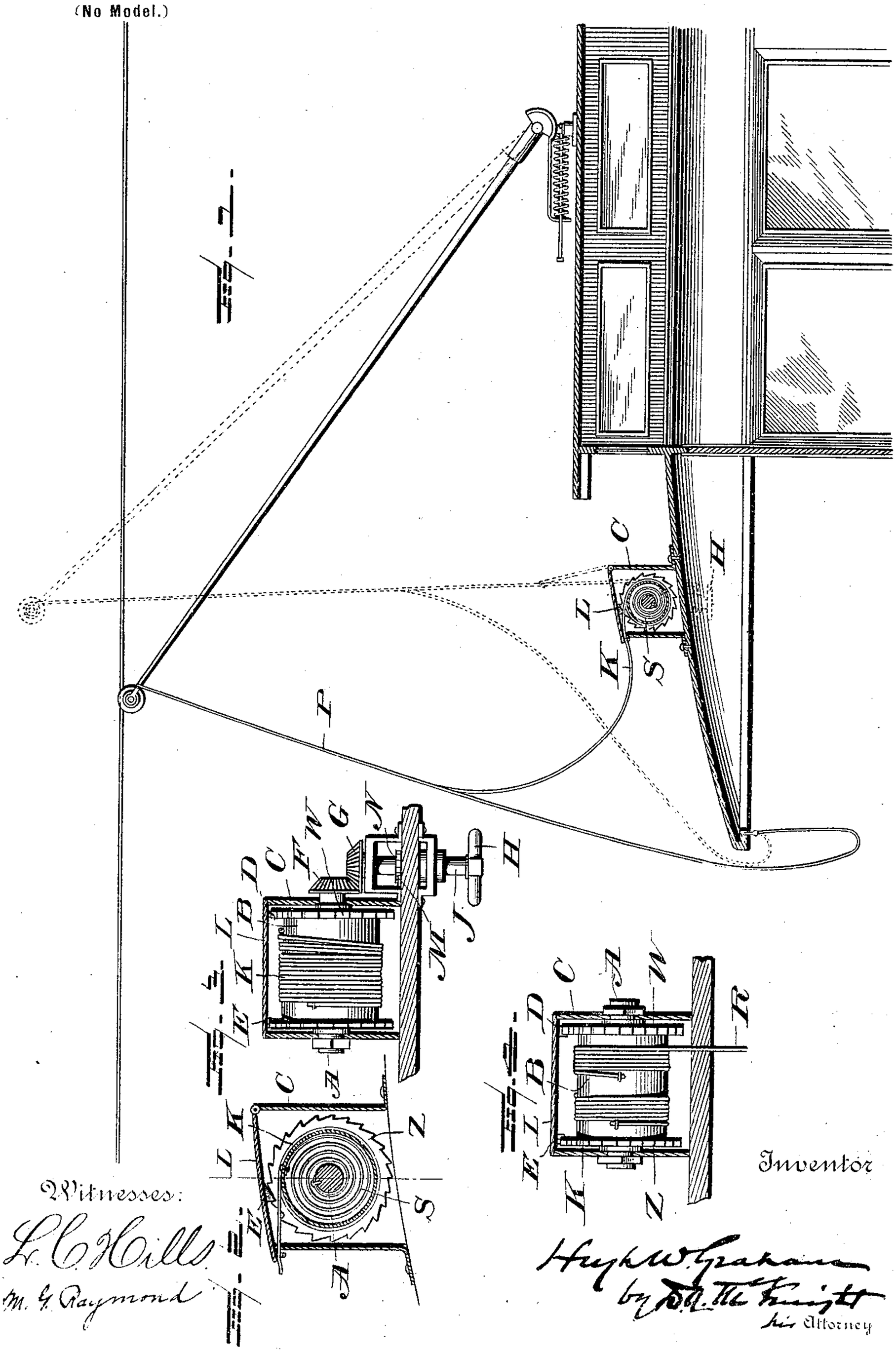
No. 641,383. Patented Jan. 16, 1900.

H. W. GRAHAM.

TROLLEY CATCHER.

(Application filed Nov. 15, 1899.)

(No Model.)



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HUGH WILLIAM GRAHAM, OF LOUISVILLE, KENTUCKY.

TROLLEY-CATCHER.

SPECIFICATION forming part of Letters Patent No. 641,383, dated January 16, 1900.

Application filed November 15, 1899. Serial No. 737,122. (No model.)

To all whom it may concern:

Be it known that I, HUGH WILLIAM GRAHAM, a citizen of the United States, and a resident of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Trolley-Catchers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to trolley-catchers; and it consists in the improved means of retracting the trolley when it has jumped the wire and of setting the retracting mechanism, hereinafter described and claimed.

In the several figures of the drawings similar letters indicate similar parts of the device.

Figure 1 is a sectional view of the spring retracting device when attached to the roof of a trolley-car, showing the trolley in place on the overhead wire and in dotted lines when it has jumped the wire, together with the operating-cords and the retaining casing-lid closed and opened. Fig. 2 is an enlarged sectional view of the retracting device when set. Fig. 3 is a front elevation of the retracting device, the inclosing casing being in section, showing the spring uncoiled and the mechanism for coiling it. Fig. 4 is a similar view of the retracting device with a modified form of mechanism for setting it.

In the figures, C is a casing or box inclosing the spring retracting mechanism. Casing C is provided with lid L, projecting over its front edge, resting loosely on it, and adapted to be lifted by the tightening of operating-cord K when the trolley jumps its wire and to fall by gravity when cord K is again relaxed. Within the casing is shaft A, which is rotatable, if desired, but so arranged as to be immovable when the retracting device is set. To shaft A is secured one end of coil-spring S, the other end thereof being secured to the inside of drum B, which is rotatably mounted on shaft A, whereby when the shaft is held immovable the rotation of the drum, or when the drum is held immovable the rotation of the shaft, will wind up or unwind the spring. To the lower side of lid L are secured dogs D and E, adapted to engage with the two ratchet-wheels W and Z, secured to drum B at either end thereof, and when so engaged to hold drum B from rotating backward while spring S is being wound up and after it is wound up and the retracting device is set. To the outside of drum B is secured operating-cord K, which is so arranged as to wind up on drum B when spring S is uncoiling and to unwind when spring S is being coiled. Cord K passes through a slot in the front of casing C just below lid L, and its other end is suitably connected to replacing-cord P, which, as usual, is fastened to the trolley-rod and hangs within convenient reach of the conductor. The device may be attached to the roof of the car, as shown in Fig. 1, and it is set when the spring is coiled and the dogs underneath the lid engage the ratchet-wheels. When the trolley jumps the wire, its uprise lifts the lid, as shown in dotted line in Fig. 1, and disengages the dogs, the spring uncoils, and the winding up of the operating-cord retracts the trolley. When the trolley is replaced, the lid drops back upon the casing, the dogs reëngage the ratchet-wheels, and the device is ready for resetting.

The device may be set when lid L is in place by simply retracting cord K, as is obvious, whereby drum B is rotated and spring S thereby coiled. It may be set by retracting supplementary cord R, (shown in Fig. 4,) one end thereof being attached to drum B and the other hanging within convenient reach of the conductor; but the means of setting it which I at present prefer are illustrated in Fig. 3, in which cog-wheel F is mounted on one end of shaft A and engages with cog-wheel G, mounted on the upper end of spindle J, which passes down through the car-roof and terminates in handle H within convenient reach of the conductor. Dog M engages with ratchet N, suitably secured to spindle J, and holds spindle J from rotating backward (which in turn holds shaft A from rotating) while coil-spring S is being wound up and afterward when the device is set.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The spring-actuated trolley-catcher herein described, consisting of an inclosing casing, a gravitating lid therefor, an operating-

cord attached to the trolley-rod at one end and to a drum within the casing at the other, said cord passing into the casing beneath the lid and being adapted to lift the lid when it is tightened, a ratchet-wheel (or wheels) mounted on the drum and adapted to engage with a dog (or dogs) secured to the under side of the lid, a shaft within the casing carrying the drum rotatably mounted thereon, a coil-spring fastened at one end to the shaft and at the other to the inside of the drum, and means for coiling the spring and holding the drum and shaft from rotating when the spring is coiled.

2. A trolley-catcher consisting of a spring-actuated drum for retracting the operating-cord, a gravitating cover over the drum adapted to hold the drum from rotating when the spring is coiled and to release the drum when the operating-cord is tightened, and means for coiling the actuating-spring.

3. In a trolley-catcher, the spring-actuated drum and its cover adapted to hold the spring when coiled and to release it when the trolley jumps its wire, a rotating shaft for coiling the spring, cogs for rotating the shaft mounted on the shaft and on an operating-spindle, and means for holding the shaft from rotating when the spring is coiled.

In testimony whereof I affix my signature in presence of two witnesses.

HUGH WILLIAM GRAHAM.

Witnesses:
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