

J. F. RICE.

Hanging Signal-Cords of Railroad-Cars.

No. 139,262.

Patented May 27, 1873.

Fig. 1.

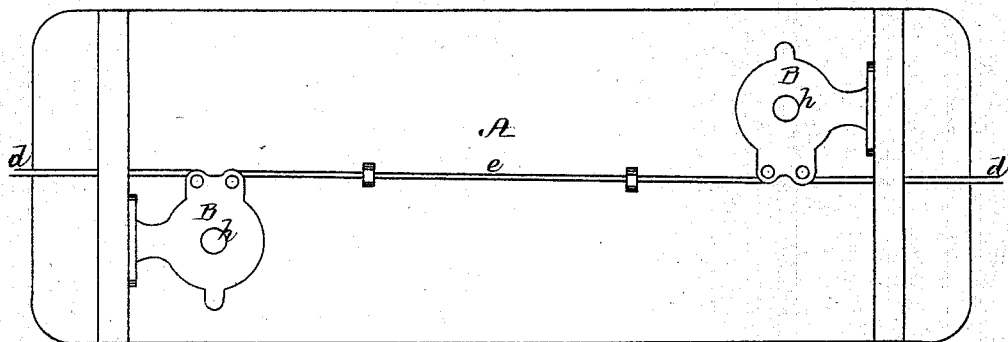


Fig. 2.

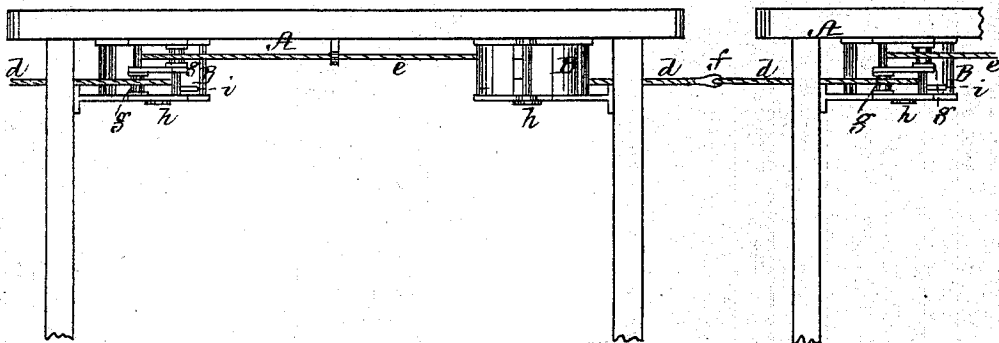


Fig. 3.

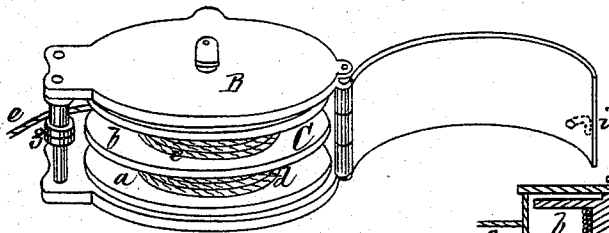
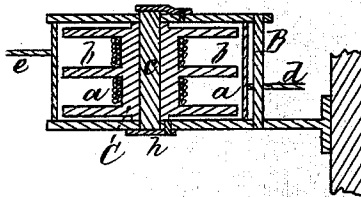


Fig. 4.



Witnesses,
W. J. Cambridge
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Inventor,
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Per his Attorneys
Treschemacker & Stearns

UNITED STATES PATENT OFFICE.

JOHN F. RICE, OF FITCHBURG, MASSACHUSETTS.

IMPROVEMENT IN HANGING SIGNAL-CORDS OF RAILROAD CARS.

Specification forming part of Letters Patent No. **139,262**, dated May 27, 1873; application filed March 10, 1873.

To all whom it may concern:

Be it known that I, JOHN F. RICE, of Fitchburg, in the county of Worcester, and State of Massachusetts, have invented an Improvement in Hanging Bell or Signal Cords of Railroad-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings making part of this specification in which—

Figure 1 is a plan of the ceiling of a railroad car, having my improvement applied thereto. Fig. 2 is a side-elevation, representing my improvement applied to two contiguous railroad cars. Fig. 3 is a perspective view of one of the spools or pulleys around which the signal-cords are wound, and its casing. Fig. 4 is a vertical section through the center of the same.

Bell or signal cords of railroad cars have heretofore been suspended by passing through a series of eyes or hangers, provided with pulleys attached to the ceiling of the car, the cord of one car being connected with that of the next by a metallic coupling. These cords are, however, frequently broken through the neglect of the person in charge to detach them when the cars are to be separated; and when thus broken and drawn rapidly through the cars, much damage is often occasioned to the head-linings, lamps, and other fixtures. Furthermore, the cord when broken is sometimes drawn out upon the ground and soiled, and when replaced it is liable to deface the head-linings, by coming into contact therewith.

To overcome these difficulties is the object of my invention, which consists in attaching the signal-cords to a series of spools or pulleys arranged one at each end of each car, so that the revolution of one spool, by pulling the cord attached thereto, will operate the other spools in advance of it and cause the signal to be given as required; while, if the person in charge neglects to uncouple the cords when the cars are to be separated from each other or from the locomotive, the cord will break between the cars, or detach itself from the spool or pulley at the end of the car, and no damage will be occasioned, as the cord extending between the two spools within the car will remain undisturbed.

To enable others skilled in the art to understand and use my invention, I will proceed to

describe the manner in which I have carried it out.

In the said drawings, A represents the ceiling of a railroad car, at each end of which, near the door, is secured a hollow drum or casing B, within which is placed a spool or pulley C provided with two grooves, *a b*, and revolving on a pin, *c*. To one of the pulleys C within the groove *a* is secured one end of the signal-cord *d* leading from the adjoining car, the cord passing around the pulley as seen in Figs. 3 and 4; and to this same pulley, within the groove *b* is secured one end of the cord *e* which passes around it with the same number of turns as the cord *d*, but in the opposite direction. The cord *e* extends from this pulley longitudinally through the car, to the pulley at its opposite end, where it is secured within its groove *b*, and wound around as before described; and to this same pulley, within its groove *a*, but wound in the opposite direction, is secured the cord *d*, which is connected with the pulley C of the next car, and so on throughout the whole train; and thus, if one of the pulleys C is revolved by the cord connected therewith, the motion will be communicated through the several pulleys to all of the cords in advance of the one pulled, and the signal will be given as required. Each of the cords *d* which extends between two cars is provided with an ordinary coupling, *f*, as seen in Fig. 2. The cords *d e*, after leaving the pulleys, pass over friction-rolls *g*, Fig. 3, which revolve on vertical pins or shafts secured between projections on the casings B. One side of each of the casings B is hinged so that it can be opened as seen in Fig. 3, to allow of the removal of the spool C after the withdrawal of the pin *c*, which is held in place and prevented from dropping out by a disk *h* pivoted to the bottom of the casing. The hinged side of the casing is secured when closed by a suitable catch, *i*. Instead of a portion of the side of the casing being made to open as shown, its bottom may be pivoted so as to allow of the removal of the pulley, if preferred. About the same length of cord is intended to be wound in each of the grooves of the pulleys C so that an equal length can be drawn off in either direction.

From the foregoing, it will be seen that the

cord *e* inside the car, is not directly connected with that running to the next car, but indirectly through the spool C; and consequently if the person in charge neglects to uncouple the cord *d* between the cars, or between the forward car and the locomotive, when they are separated, the cord *d* will either break or detach itself from the spool C at the end of the car, but no unusual strain will be brought upon the cord *e* inside the car, which will remain undisturbed, and all liability of damage to the car or injury to the passengers from the breaking of the signal-cord is thus entirely avoided.

The above described device is of simple construction, not liable to get out of order, and can be furnished at a moderate cost.

Claim.

What I claim as my invention and desire to secure by Letters Patent is—

A series of signal-cords *d e* connected indirectly with each other by a series of spools or pulleys around which they are wound, so as to operate substantially in the manner and for the purpose described.

Witness my hand this 17th day of January, A. D. 1873.

JOHN F. RICE.

In presence of—

RUFUS F. COWLES,
ELI RICE.