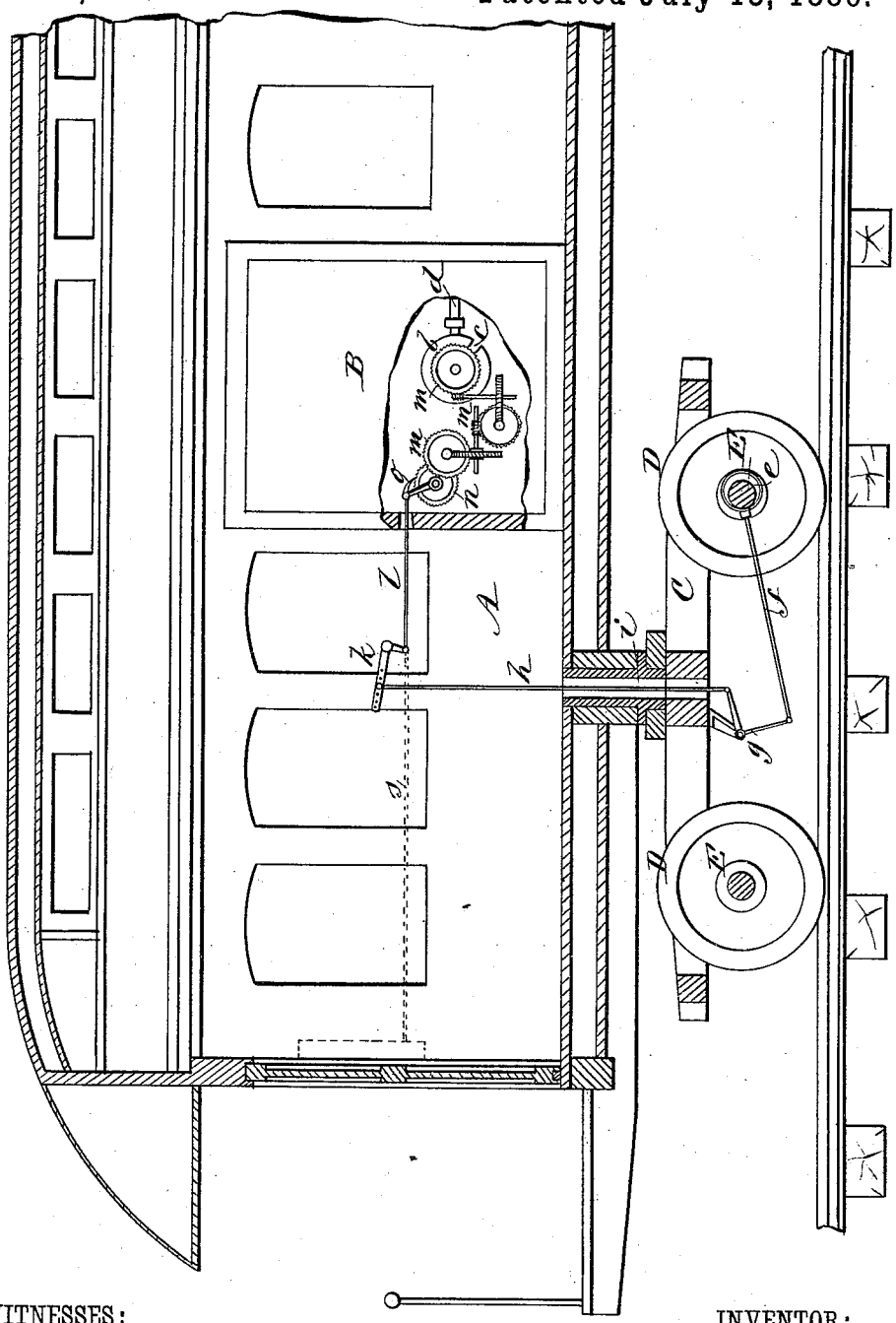
(No Model.)

R. L. BACA & J. L. LEAVITT.

DEVICE FOR CONTROLLING THE OPENING OF LOCKS ON RAILWAY CARS, &c.

No. 345,473. Patented July 13, 1886.



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DEVICE FOR CONTROLLING THE OPENING OF LOCKS ON RAILWAY-CARS, &c.

SPECIFICATION forming part of Letters Patent No. 345,473, dated July 13, 1886.

Application filed November 5, 1885. Serial No. 181,924. (No model.)

To all whom it may concern:

Be it known that we, ROMAN L. BACA and JOHN L. LEAVITT, both of Grant, in the county of Valencia and Territory of New Mexico, have invented new and Improved Devices for Controlling the Opening of Locks on Railway-Cars, to prevent robbery of or from said cars while in transit, of which the following is a full, clear, and exact description.

This invention, while applicable to ordinary freight-cars, is more especially designed to be used on express or postal or other cars containing valuable articles or matter, whether packed directly in said cars or within safes therein.

The invention has for its object the prevention of an agent or other person (other than a skilled mechanic having the proper amount of time and tools) from obtaining entrance into the safe or car while in transit or until the car arrives at or near a fixed destination, or any one of a series of destinations on the route, when or where it is required to open the safe or car. This we do by combining with the running-gear of the car—one of its wheels or axles, for instance—a mechanism deriving its motion therefrom and transmitting the movement to the inside of the car or safe, and a locking and unlocking mechanism applied to the car or safe and controlled by the mechanism which derives its motion from the car. The locking and unlocking mechanism may be similar to that used in time-locks on safes, or it may be of any special or approved construction; but it is not dependent upon time to regulate the opening of it, but upon a fixed distance or distances traveled by the car.

Reference is to be had to the accompanying drawing, forming part of this specification, in which the figure represents a vertical longitudinal sectional view of a railroad express-car, in part, with a safe therein, and having our invention applied in a form which will serve as well as any other to illustrate its principle of action.

A indicates the body of the car, in part, and B a safe therein, in which money or valuables may be packed, and which has a locking mechanism controlled, as regards the opening of it, by a train of gears, *m*, operating a slotted tumbler, *b*, that when its slot *c* is in line with the bolt *d* admits of said bolt being shot back to open the safe, but does not allow of the bolt being drawn at any other than such set position of the tumbler, which may be regulated as desired. Any other locking mechanism may be used which, after the safe has been closed and locked, does not admit of its being opened again till a certain point has been reached in the working of the running mechanism which controls the movement of the bolt.

Heretofore in locks of this description a clock or time movement actuated by a spring or weight has been employed to provide for the opening of the lock at a certain time or times only; but our invention operates regardless of time, it being governed exclusively by the distance or distances traveled by the car.

Thus C is one of the trucks of the car; D D, two of the wheels thereof, and E E the axles. Upon one axle E is an eccentric, *e*, that gives motion by a rod, *f*, to a bell-crank, *g*, and this, in turn, operates by a rod, *h*, passing up through a sleeve, *i*, into the interior of the car, a lever, *k*, from which motion is taken to actuate the running or bolt-controlling mechanism of the lock—as, for instance, by a rod, *l*, pawl *o*, and ratchet-wheel *n*, connected with the working-gear *m* of the lock, or by any other suitable means.

The entire mechanism may be boxed in against exposure to the weather, and a duplicate of the same as a reserve be carried or provided; also, any suitable indicator or regulator may be attached for determining the opening of the car or its safe with precision. A certain regulator is shown by constructing the lever *k* with a series of holes at different distances from its fulcrum, and with any one of which the rod *h* may be engaged to operate the bolt-controlling mechanism faster or slower, as desired. The tumbler *b*, too, may be adjustable or be provided with any number of slots to provide for the drawing back of the bolt at fixed and numerous distances apart on the route.

Although the locking mechanism is here shown as applied to the interior of a safe within the car, it may be applied directly to

the door of the car; or it may be applied to both, and be controlled in the same manner by the running-gear of the car—as, for instance, by a supplementary rod, *s*, from the lever *k* to a lock on the car-door.

The following illustration will serve to explain how the invention is or may be used: Supposing an express or postal agent is about to start in his car on a trip, after depositing money to a large amount in the car-safe, which may be of any size—that is, either a small box, half the car, or the whole car, if desired—he, (the agent,) before starting from the first station, which may be termed "No. 1," knowing the stations on the route at which it is required to unlock the safe, "sets" his safe or its lock so that the same can only be opened at these several stations, which may be at various distances apart. He then closes his safe, which is locked or fastened on the inside. Arriving at or near station No. 2, he unlocks the safe as required, and on leaving said station closes or sets it as required to open again at the next station, and so on indefinitely, according to the stations on the route. It will be seen that it is immaterial how long a period of time it takes to travel between the different stations, as the motion for putting the safe in an unlocking position is controlled exclusively by the distance traveled, and until the set distance has been traversed the safe cannot be opened. In case of accident entrance can be obtained into the safe by returning the car to the machine-shop, or by skilled workmen with proper time and appliances.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination, with a railroad-car and a lock in or on the same, of mechanism deriving its motion from the running-gear of the car, and controlling the bolt of the said lock, substantially as specified, whereby the lock is prevented from being put into an opening condition until a given distance, irrespective of the time occupied, has been traveled by the car, essentially as and for the purpose set forth.

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