G. POTTER, Jr.

BURGLAR ALARM FOR RAILWAY CARS, &c.

APPLICATION FILED SEPT. 18, 1908.

914,508. Patented Mar. 9, 1909.

Fig. 1.

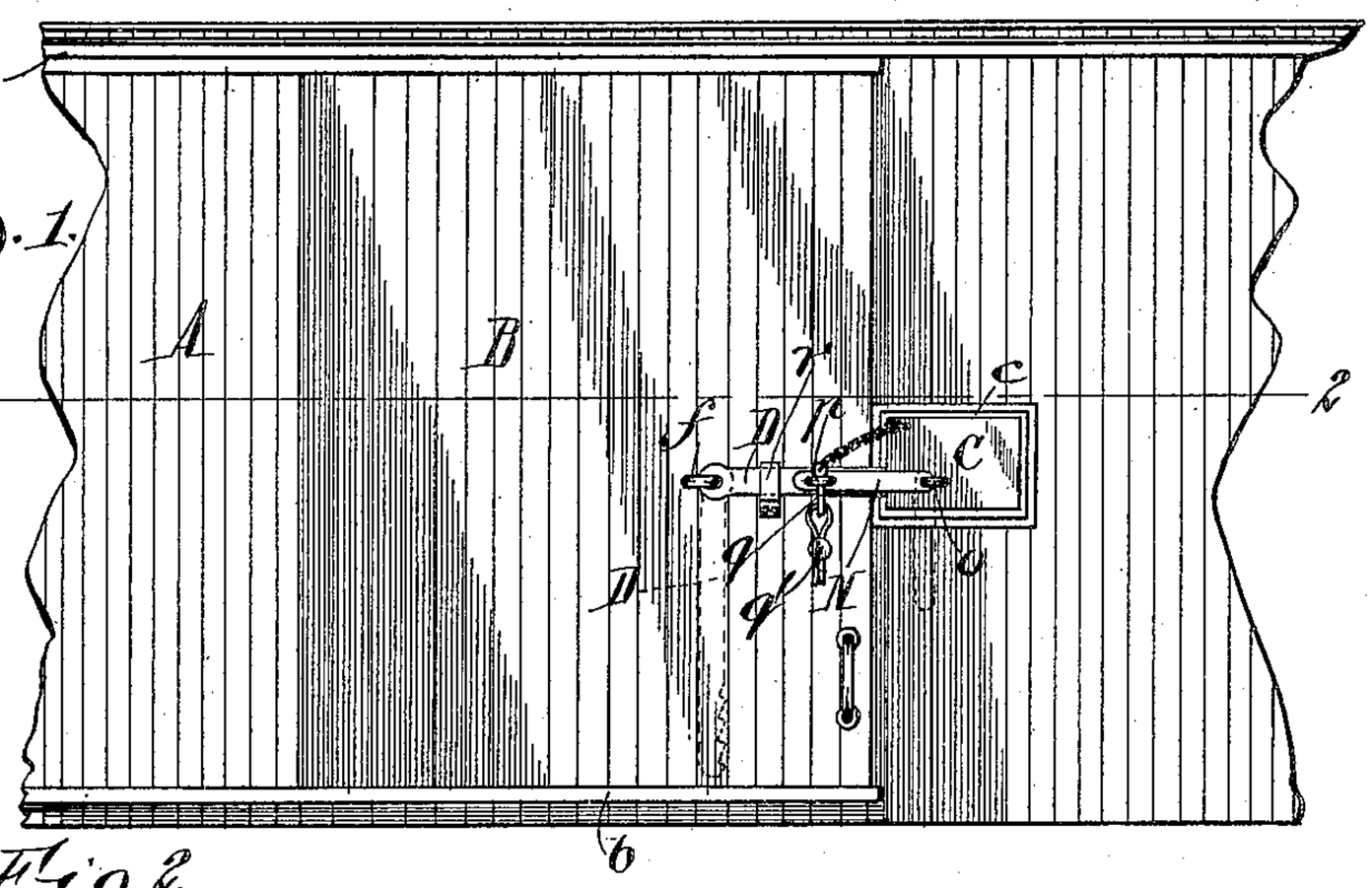


Fig. 2.

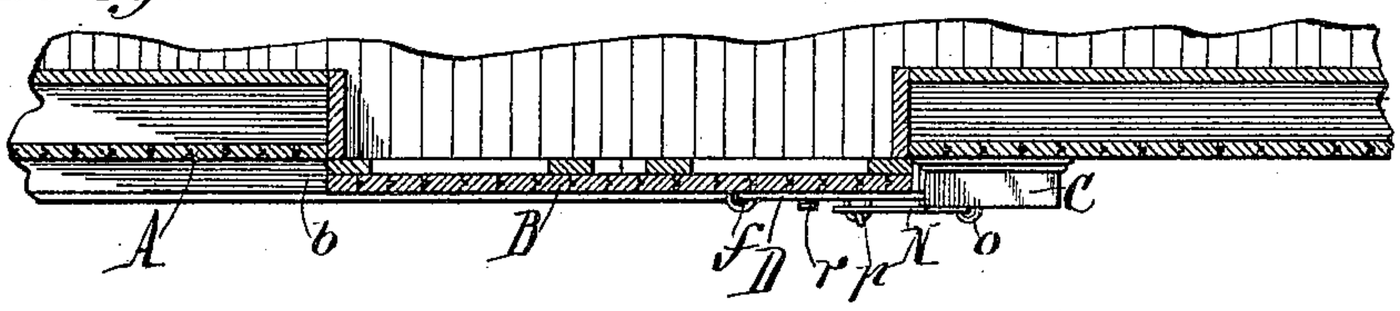


Fig. 3.

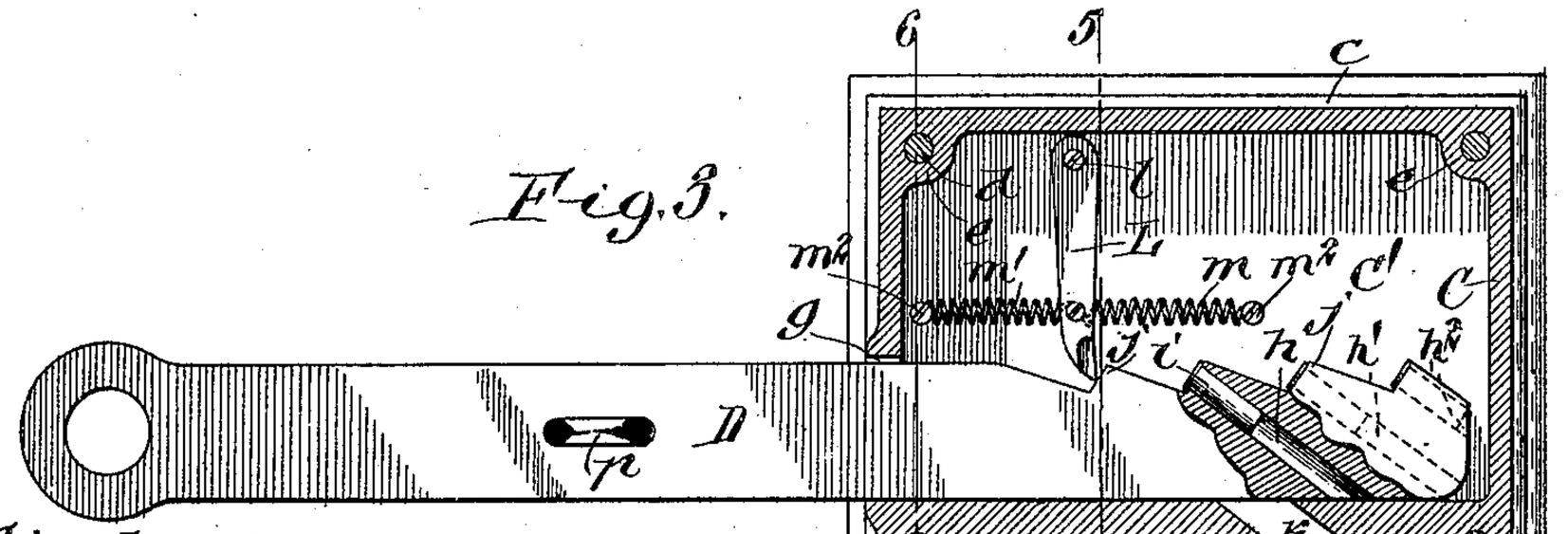


Fig. 5.

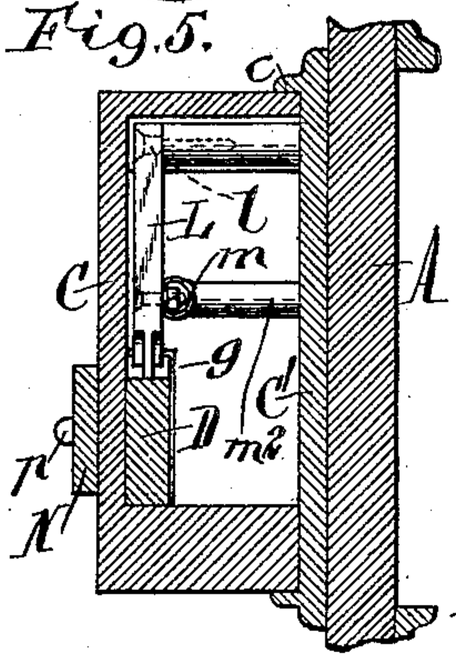


Fig. 6.

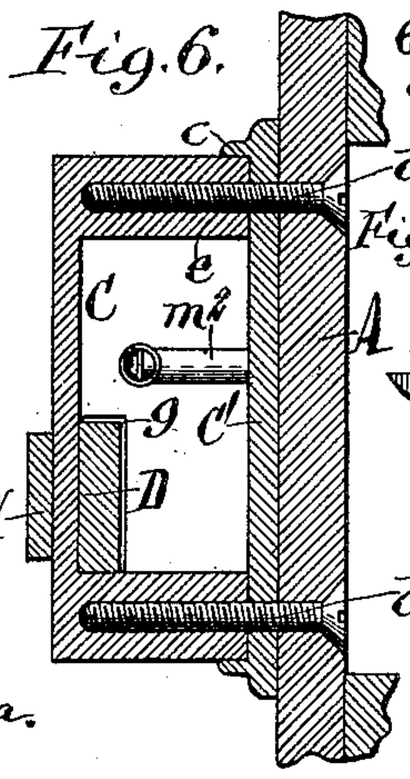
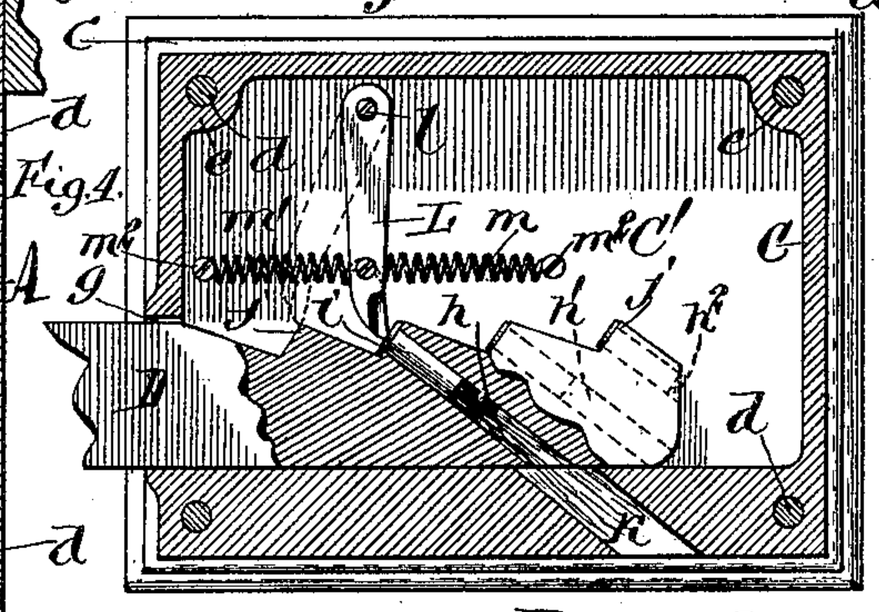


Fig. 4.



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UNITED STATES PATENT OFFICE.

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BURGLAR-ALARM FOR RAILWAY-CARS, &c.

No. 914,508. Specification of Letters Patent. Patented March 9, 1909.

Application filed September 18, 1908. Serial No. 453,649.

To all whom it may concern:

Be it known that I, GEORGE POTTER, JR., a citizen of the United States, residing at Niagara Falls, in the county of Niagara and State of New York, have invented a new and useful Improvement in Burglar-Alarms for Railway-Cars, &c., of which the following is a specification.

The invention relates to a burglar alarm designed principally for the doors of freight cars, although the same is also useful in connection with the doors and windows of barns, houses and other buildings.

This invention has more particular reference to devices of this kind in which an alarm is given by the firing of one or more blank cartridges, upon opening the door or window.

The object of my invention is the provision of a simple alarm of this character which can be readily applied, which is reliable in action and which can be conveniently loaded.

In the accompanying drawings: Figure 1 is a fragmentary side elevation of a freight car equipped with the improved burglar alarm. Fig. 2 is a horizontal section in line 2—2, Fig. 1. Fig. 3 is a vertical longitudinal section of the device, on an enlarged scale, showing the parts in their normal position. Fig. 4 is a similar section showing the cartridge-bar partly withdrawn and a cartridge being fired. Figs. 5 and 6 are transverse sections on the correspondingly numbered lines in Fig. 3.

Similar letters of reference indicate corresponding parts in the several views.

A indicates the body or side wall of a freight car and B one of the sliding doors guided in the usual ways *b*.

C indicates a casing and D a coöperating cartridge-carrier or bar, one of which parts is mounted on the car-body or door-frame and the other on the door, the casing being preferably secured to the car body and the cartridge-carrier mounted on the door, as shown in the drawings. The casing is applied to the outer side of the car body at the edge of the door-opening or frame and preferably consists of a metallic box, the sides, ends and front wall of which are closed and cast integral, while the rear wall or back plate C^1 is separate therefrom and provided with a forwardly-projecting flange *c* which overlaps the body of the casing and enters the same on the back-plate. The body of the casing is secured to the back-plate by screws *d* which pass through the car-wall and the back-plate and engage threaded openings in bosses *e* formed in the corners of the casing, the screws terminating short of the face of the casing. By this construction, the body and back-plate of the casing are firmly united and the whole casing is at the same time securely fastened to the car-body in such a manner that the fastenings are not exposed or accessible from the outer side of the car.

The cartridge-carrier preferably consists of a bar pivoted at its rear end to the outer side of a car door by a staple *f* or other suitable means, so that when the door is open the bar may hang down in the position shown by dotted lines in Fig. 1. The front portion of the bar normally passes through an opening *g* in the front end of the casing C, and in its upper edge the bar is provided with one or more cartridge-apertures or chambers *h*, h^1, h^2 adapted to receive blank or other cartridges *i*, these chambers being in the portion of the bar which lies normally within the casing, as shown in Fig. 3. The portion of the bar containing the cartridge-chambers is provided at its upper edge with a row of teeth *j*, and each of said chambers extends through the back of one of these teeth, so that the head of the cartridge inserted therein is exposed at the back of the corresponding tooth. As shown in Fig. 4, the rearmost tooth of the bar contains no cartridge-chamber. The cartridge-chambers are preferably arranged obliquely and extend from top to bottom of the bar, as shown, and the casing C is provided in its bottom with a properly-placed escape opening *k* for the exploded charges with which the cartridge chambers successively register when the bar is withdrawn from the casing by opening the car-door.

Pivoted in the upper portion of the casing C at *l* is a hammer L adapted to strike the heads of the cartridges in the bar D when the latter is withdrawn from the casing, so as to fire them and give an alarm. This hammer swings lengthwise of the casing and is connected on its front side with a spring *m* which when strained tends to urge the hammer forwardly against the heads of the cartridges. The free lower end of the hammer extends into the path of the teeth *j* of the cartridge-bar D, so that when the bar is withdrawn by opening the car-door,

the hammer is cocked or swung backward by the rearmost tooth of the bar, as shown by dotted lines in Fig. 4. As soon as the hammer clears that tooth, it swings forward under the tension of the distended spring *m* and strikes the cartridge in the chamber of the next tooth, firing it and producing a loud report. By the continued withdrawal of the bar, the hammer in like manner is swung backward and then released by the succeeding teeth of the bar, striking and firing the remaining cartridges. The hammer is thus caused to ride or snap over the entire series of teeth of the bar, firing the several cartridges in rapid succession and producing an alarm well calculated to frighten off burglars and others not authorized to open the car door and to lead to their detection.

m^1 indicates a spring arranged to resist the rearward movement of the hammer for checking rebound of the same under the force of the exploding cartridges, thereby returning the hammer to its normal position after each discharge and insuring a reliable action of the same upon all of the cartridges in the carrier. In the construction shown in the drawings, the springs *m*, m^1 are fastened at their outer ends to posts or brackets m^2 of the casing and at their inner ends to the hammer.

In the construction shown in the drawings, the bar or carrier is represented as having three cartridge chambers, but a greater or less number may obviously be employed.

The lower end of the hammer L is preferably narrow and pointed like the hammers of fire arms, and to obtain a smooth and reliable action of the hammer, its lower end is curved or beveled on its rear side and the front faces of the teeth *j* are beveled at a smaller pitch than their backs.

The car-door may be locked or secured by any suitable means. The preferred devices consist of a hasp N pivoted to the face of the casing C by a staple *o* and having its slotted end retained upon a staple *p* of the cartridge carrier D, by a pin *q*, the latter being held from withdrawal by a seal q^1 of any approved construction.

Upon removing this seal and withdrawing the locking pin *q*, the hasp can be detached from the staple *o* and the car-door opened. Obviously this cannot be done without withdrawing the cartridge-carrying bar D from the casing C and the result is the giving of the burglar-alarm in the manner above described.

The bar D can be readily loaded when outside the casing, and after being loaded, it is raised to a horizontal position in line with the opening *g* of the casing and inserted therein by closing the car-door, the hammer L snapping idly over the front sides of the teeth of the bar until it reaches its normal position against the back of the first or rearmost tooth, as shown in Fig. 3. In order to facilitate the entrance of the bar into the casing, the door is preferably provided with a clip or keeper *r* for supporting the bar in its normal position. This clip is open at its upper end to permit the cartridge-bar to be lifted out of it in the open position of the door.

While I prefer to attach the cartridge-bar or carrier to the door and the hammer and its casing to the car-body or equivalent frame or support, this arrangement may be reversed, if desired, without departing from my invention.

I claim as my invention:

1. The combination with a door and a frame, of a cartridge-carrier mounted on one of said members, and a coöperating hammer mounted on the other member.

2. The combination with a door and a frame, of a cartridge-carrier mounted on one of said members, a casing mounted on the other member and adapted to receive said cartridge-carrier, and a hammer within said casing coöperating with said cartridge-carrier.

3. The combination with a door and a frame, of a casing mounted on one of said members, a toothed bar mounted on the other member and slidable in said casing, one or more teeth of the bar being provided with cartridge-chambers, and a hammer within said casing coöperating with said teeth.

4. The combination with a door and a frame, of a casing mounted on one of said members, a toothed bar mounted on the other member and slidable in said casing, one or more teeth of the bar being provided with cartridge-chambers, a hammer within said casing coöperating with said teeth, and a spring arranged to urge the hammer against the faces of the teeth containing the cartridge-chambers.

5. In a burglar alarm, the combination of a casing and a cartridge-carrier, one of said members adapted to be mounted on a door and the other on a frame, the casing having an opening for receiving the cartridge-carrier and the latter having teeth provided with cartridge-chambers, and a hammer arranged in said casing and adapted to ride over said teeth.

6. In a burglar alarm, the combination of a casing and a cartridge-carrier, one of said members adapted to be mounted on a door and the other on a frame, the casing having an opening for receiving the cartridge-carrier and the latter having teeth provided with cartridge-chambers, and a spring-actuated hammer pivoted in said casing to swing lengthwise of said carrier and adapted to ride over the teeth thereof.

7. In a burglar alarm, the combination of a casing and a cartridge-carrier, one of

said members adapted to be mounted on a door and the other on a frame, the casing having an opening for receiving the cartridge-carrier, said carrier consisting of a bar provided with a longitudinal row of teeth, one or more of which are provided in their faces with cartridge-chambers, and a hammer arranged in said casing in the path of said teeth.

8. In a burglar alarm, the combination of a casing and a cartridge-carrier, one of said members adapted to be mounted on a door and the other on a frame, the casing having an opening for receiving the cartridge-carrier, a hammer arranged in said casing and coöperating with said cartridge-carrier, and means for checking rebound of the hammer.

9. In a burglar alarm, the combination of a casing and a cartridge-carrier, one of said members adapted to be mounted on a door and the other on a frame, the casing having an opening for receiving the cartridge-carrier and the latter having teeth provided with cartridge-chambers, a spring-actuated hammer pivoted in said casing to swing lengthwise of the carrier and adapted to ride over the teeth thereof, and a spring arranged on the rear side of the hammer for checking rebound thereof.

10. In a burglar alarm, the combination of a casing and a cartridge-carrier, one of said members adapted to be mounted on a door and the other on a frame, the casing having an opening for receiving the cartridge-carrier, said carrier consisting of a bar provided with a longitudinal row of teeth and oblique cartridge-chambers extending inwardly from the faces of said teeth, and a hammer arranged in said casing and coöperating with said teeth.

11. In a burglar alarm, the combination of a casing and a cartridge-chamber, one of said members adapted to be mounted on a door and the other on a frame, said carrier consisting of a longitudinally-toothed bar having cartridge-chambers extending from the faces of its teeth to the opposite edge of the bar, and said casing having a discharge-aperture coöperating with said chambers, and a hammer in said chamber arranged to ride over the teeth of said bar.

12. In a burglar alarm, the combination of a casing and a cartridge-carrier, one of said members adapted to be mounted on a door and the other on a frame, the backplate of said casing being separate from the remaining body-portion thereof, screws passing through said frame and said backplate into the body of said casing, the casing having an opening for receiving the cartridge-carrier, and a hammer arranged in said casing and coöperating with the cartridge-carrier.

13. The combination with a door and a frame, of a casing mounted on one of said members and provided in its front end with an aperture, a toothed bar pivotally-attached to the other member and slidable through the aperture and the casing, one or more teeth of said bar being provided with cartridge-chambers, and a hammer arranged in said casing and coöperating with said teeth.

14. The combination with a door and a frame, of a casing mounted on one of said members and provided in its front end with an aperture, a toothed bar pivotally attached to the other member and slidable through the aperture of the casing, one or more teeth of said bar being provided with cartridge-chambers, a hammer arranged in said casing and coöperating with said teeth, and a support arranged on the member carrying said bar for holding the bar in line with said aperture.

15. In a burglar alarm the combination of a casing and a cartridge-chamber, one of said members adapted to be mounted on a door and the other on a frame, the casing having an opening for receiving the cartridge-carrier, a hammer arranged in the casing and coöperating with the cartridge carrier, and locking means connecting the casing and the cartridge-carrier.

16. In a burglar alarm, the combination of a casing and a cartridge-carrier, one of said members adapted to be mounted on a door and the other on a frame, the casing having an opening for receiving the cartridge-carrier, a hammer arranged in the casing and coöperating with the cartridge carrier, and a hasp for connecting the cartridge-carrier and the casing.

17. In a burglar alarm, the combination of a casing and a cartridge-carrier, one of said members adapted to be mounted on a door and the other on a frame, the casing having an opening for receiving the cartridge-carrier, a hammer arranged in the casing and coöperating with the cartridge-carrier, the latter being provided outside of the casing with a staple, and a hasp attached to the casing and adapted to engage with the staple of the cartridge-carrier.

Witness my hand this 14th day of September, 1908.

GEORGE POTTER, Jr.

Witnesses:
C. F. Geyer,
J. W. Forbes.