

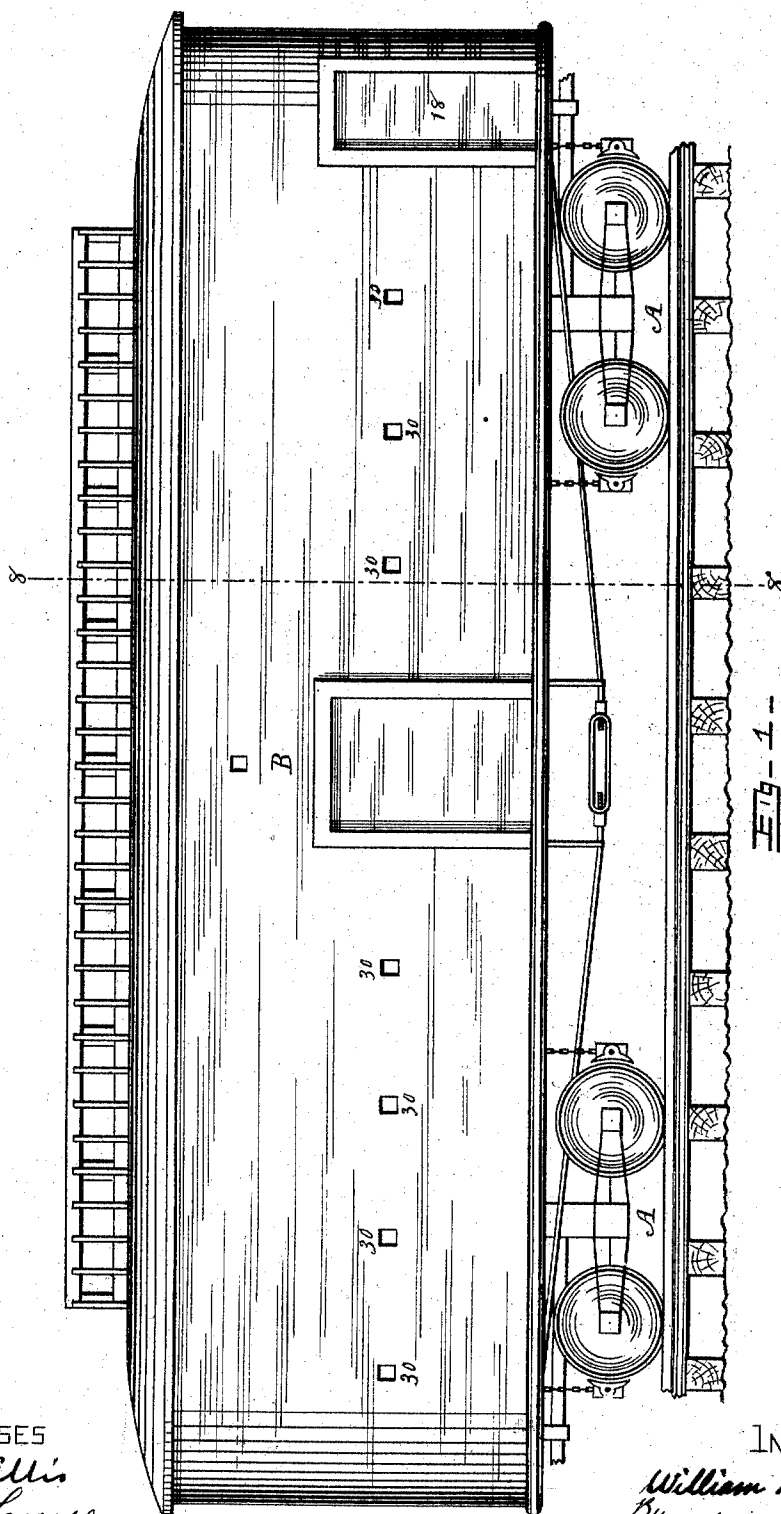
No. 767,129.

PATENTED AUG. 9, 1904.

W. B. YOUNG.
MAIL AND EXPRESS CAR.
APPLICATION FILED OCT. 26, 1903.

NO MODEL.

5 SHEETS—SHEET 1.



WITNESSES
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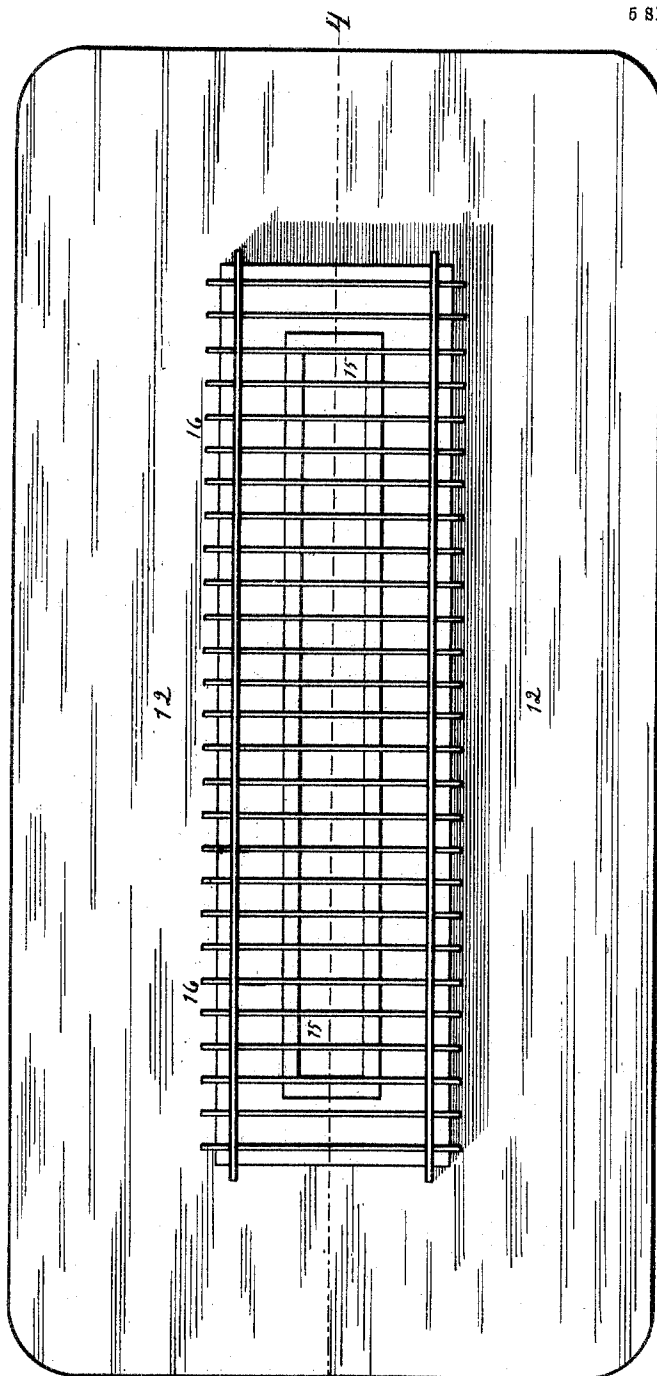
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5 SHEETS—SHEET 2.



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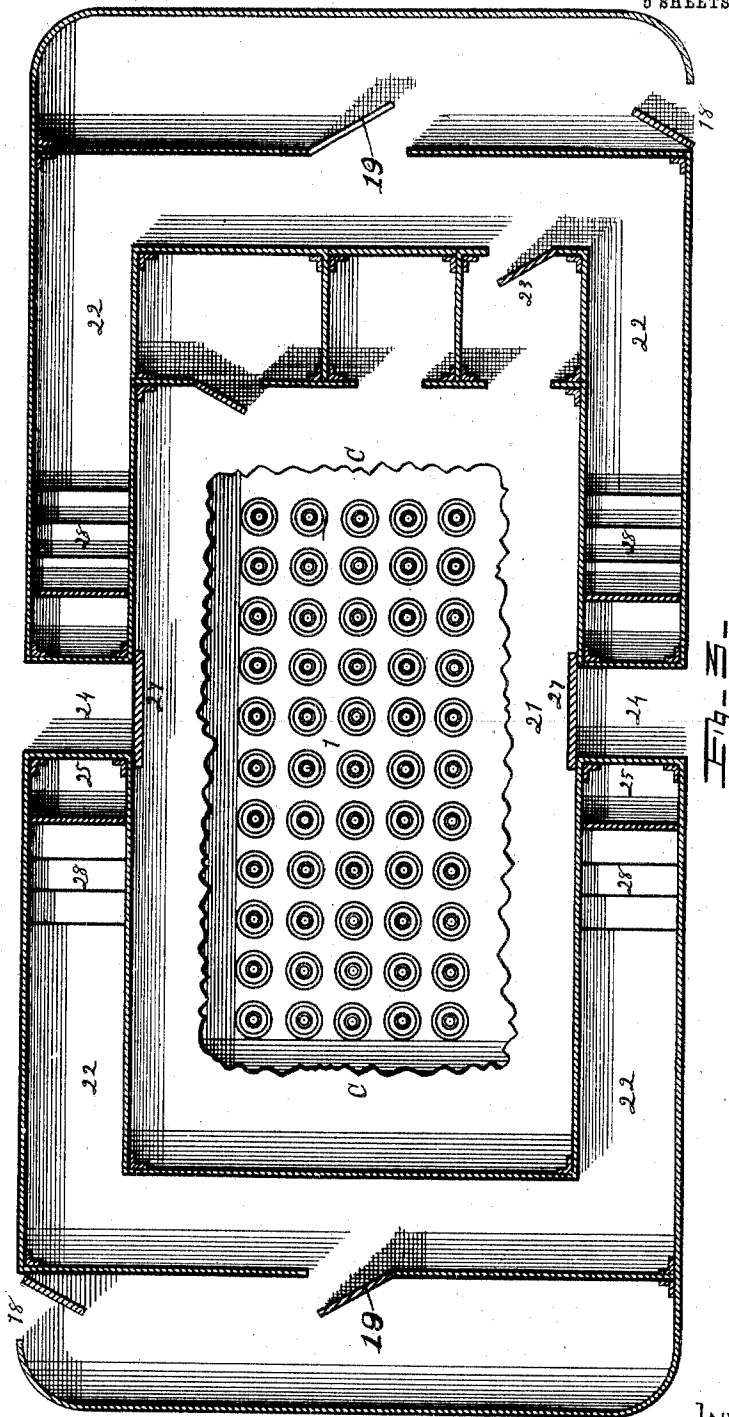
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5 SHEETS—SHEET 3.



WITNESSES

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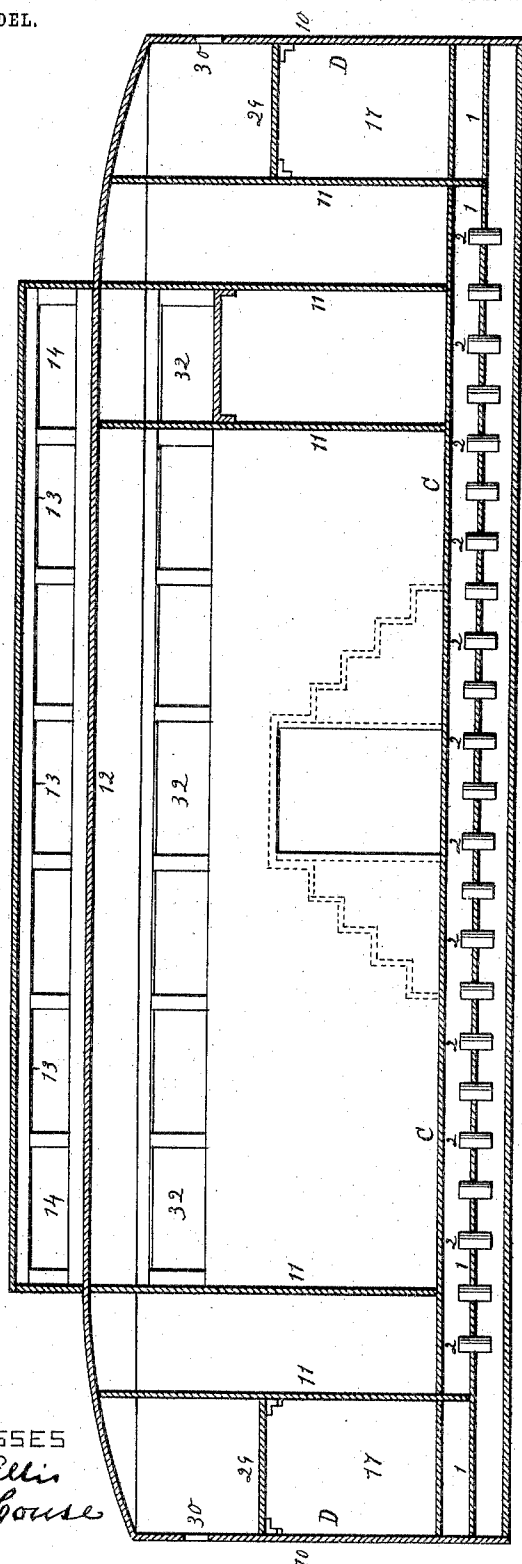
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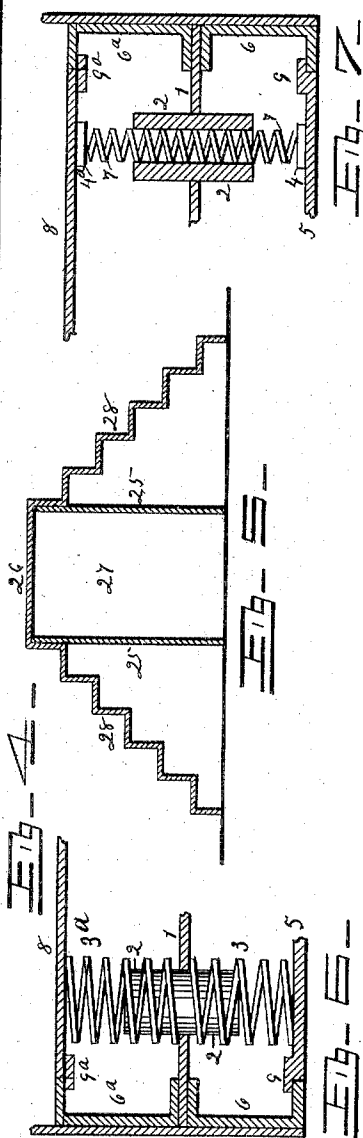
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5 SHEETS—SHEET 4.



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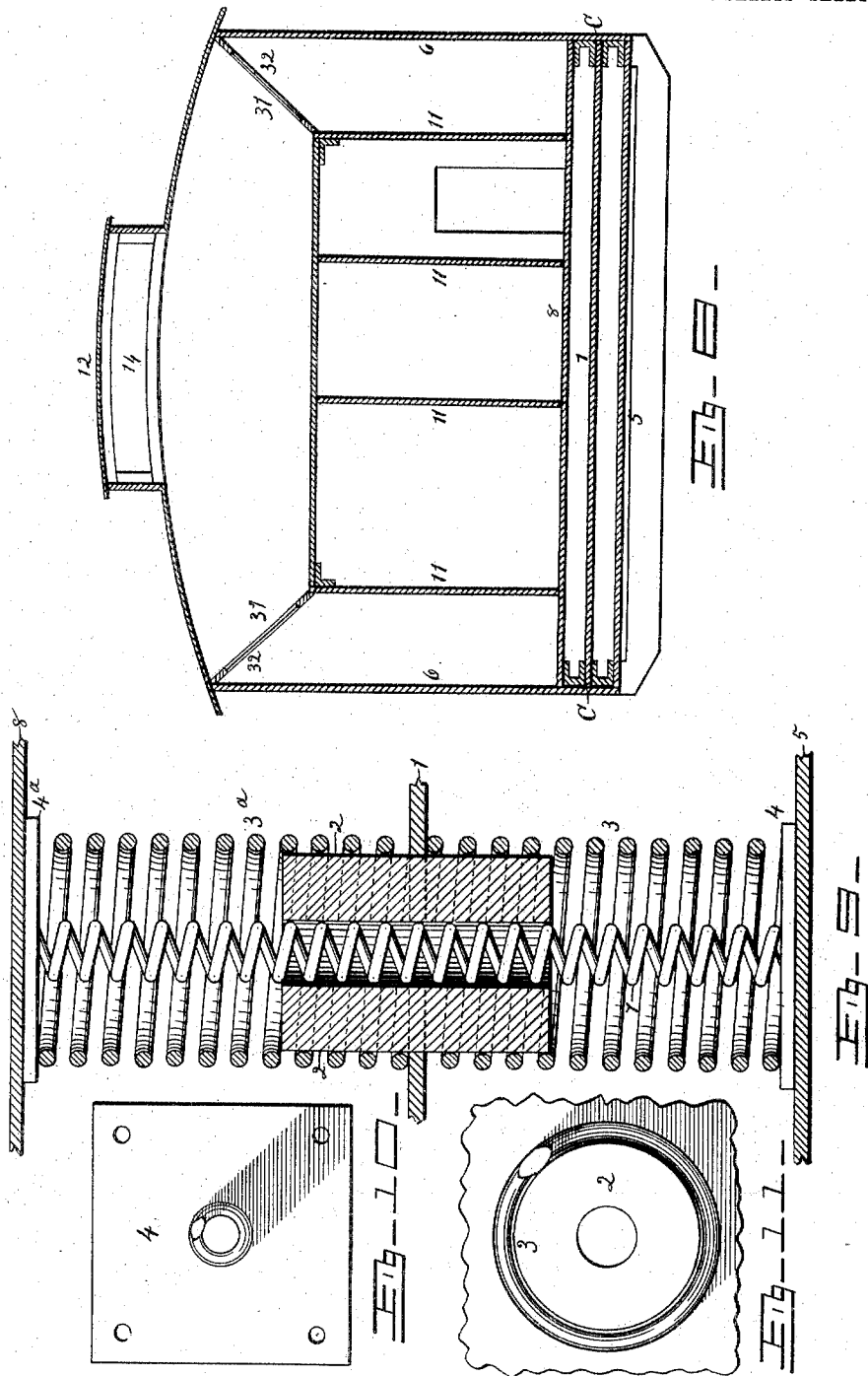
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5 SHEETS—SHEET 5.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM B. YOUNG, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF TO GEORGE W. KIDD, OF MINNEAPOLIS, MINNESOTA.

MAIL AND EXPRESS CAR.

SPECIFICATION forming part of Letters Patent No. 767,129, dated August 9, 1904.

Application filed October 26, 1903. Serial No. 178,597. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. YOUNG, a citizen of the United States, and a resident of Minneapolis, Minnesota, have invented a new and useful Improvement in Mail and Express Cars, of which the following is a full, clear, and exact description, such as will enable those skilled in the art to which my invention belongs to properly construct the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates in general to the transportation of persons and property, and in particular to the transportation of mails and money; and it consists in providing a car which is both fire and burglar proof and (to a degree) one which cannot be wrecked with dynamite or other explosives.

To these ends my invention consists in the construction shown in the accompanying drawings, in which—

Figure 1 is a side elevation; Fig. 2, a top view; Fig. 3, a longitudinal horizontal section of Fig. 1, taken on the line 3 3; Fig. 4, a longitudinal vertical section of Fig. 2, taken on the line 4 4; Figs. 5, 6, and 7, detail sections hereinafter described; Fig. 8, a vertical cross-section of Fig. 1, taken on the line 8 8; Fig. 9, a vertical section of one of the springs, enlarged; and Figs. 10 and 11, details hereinafter described.

Similar letters and figures refer to similar parts throughout the several views.

The "trucks" A are not unlike those commonly used in the construction of mail and express cars, form no part of my invention, and serve only to support and carry my burglar and fire proof car.

The car B, I construct entirely of fireproof material, using channel, angle, and T iron for the frame and sheet metal (preferably steel) for the floor, roof, and walls.

The floor C of my car is an important feature of the invention, its construction being as follows: I first take a sheet of metal 1 of the required size (the size of my car-bottom) and perforate it, drilling as many holes therein as there are springs in my car-bottom. Into each of these holes I force a cylinder 2, which is held in place by the friction of the part, said springs

being "set" by means of a hydraulic press or other mechanism adapted to the purpose. This perforated plate 1 I now place in a horizontal position upon a suitable support and mount thereon the first series of springs 3, (the group which will be the lower series when the car is completed,) setting them over and around the upwardly-extending portions of the cylinders 2 and upon the plate 1. I then affix the caps 4 to the bottom plate 5, securing them in place by means of cap-screws, which I pass through the said caps and screw into the said bottom plate. I now mount this bottom plate 5 (caps downward) upon the upper ends of the springs 3, where for the time being it is supported. I then mount the first (lower) side and end rails 6 upon the perforated plate 1, near its edges, and secure them together at their corners by means of angle-irons bolted to their inner sides, thus forming a rectangular frame, which frame I now secure to the perforated plate 1 by means of cap-screws, which I pass through the flange of the said frame and screw into the said plate. I now turn the parts (the perforated plate 1, springs 3, caps 4, and bottom plate 5) over upon my support, thus bringing the parts into their proper positions. I then mount the second series of springs 3^a, (the upper series,) setting them over and around the upwardly-extending ends of the cylinders 2 and upon the plate 1. I now set in place the inner springs 7, inserting them within the cylinders 2 and upon the caps 4, affixed to the upper side of the bottom plate 5. I then affix the upper caps 4^a to the floor-plate 8, securing them thereto by means of cap-screws which I pass through the said caps and screw into the said floor-plate. I then mount this floor-plate 8 (caps downward) upon the last-named (upper) series of springs 3^a and the said inner springs 7, (letting the pins on the caps 4^a enter the upper end of the said spring.) I now mount the second (upper) side and end rails 6^a upon the perforated plate 1, near its edges, (and directly over the first-named side and end rails 6,) where I secure them together at the corners in the manner above described to form the second rectangular frame, which I secure, as before, to the perforated plate 1, thus completing my

bottom C. It will be observed that the upper (floor) plate 8 and the lower (bottom) plate 5 are not affixed to the side rails 6 and 6^a, that they are held in line and away from the intermediate plate (the perforated plate 1) by means of the springs 3 and 7, and that they are prevented from being forced or from falling from the frame by the underlying and overlapping flanges 9 and 9^a. My bottom C being thus constructed and mounted, I proceed to erect my superstructure D by bolting my side and end walls 10 to the bottom, securing them together at the vertical corners by means of angle-irons. In like manner I affix my partitions 11 in place, thereby subdividing my car into desired compartments, as shown, after which I mount and affix my roof 12. This roof 12 is an important feature of my invention, as it provides for lighting the interior of my car. It is fashioned with a longitudinal elevation 13, having top and side lights. These top and side lights 14 and 15 I protect by means of an iron grating 16, which grating overlies and surrounds the said longitudinal elevation and is secured to but removable from the roof 12. (See Fig. 2.) A perforated sheet-metal shield may be substituted for the iron grating 16; but I prefer the grating specified.

The subdivision of my car into compartments is another important feature of my invention and is substantially as shown in Fig. 3. I partition off a vestibule at each end of my car, (by means of the two vertical walls 11,) each of which is provided with an outer door 18. These doors open inward and are adapted to being locked from either side. The space intermediate the vestibules 17 I subdivide into an inner and an outer chamber, (by means of the four vertical walls 11,) thus forming an inner chamber 21, adapted to serve as a receptacle for the merchandise, mail, or money being transported, and an outer chamber 22, which is adapted to serve as an antechamber extending around the inner chamber 21. A door 23 leads from the outer (ante) chamber 22 to the inner chamber 21. It opens inward and is adapted to being locked from the outer side—that is to say, it can be locked or unlocked from the antechamber only. The inner chamber 21 communicates with the outside of the car by means of passage-ways 24, which passage-ways are fashioned with vertical walls 25 and a horizontal top 26. It extends through the outer (ante) chamber 22 and is closed by means of doors 27, which doors are operated only (opened and closed) by parties within the outer or ante chamber 22. The roofs (26) of these passage-ways serve as lookouts or perches, from which the guards can take observations through the port-holes hereinafter described. Stairways 28 extend upward to and downward from the roofs of these passage-ways 24, thus providing means of passage throughout the whole of the

antechamber 22 and also provide means of ascent to or descent from the roof or lookouts 26.

Lookouts or scaffolds 29 at each end of the car permit of a watchman taking observations through other loopholes, hereinafter described. The scaffolds 29 are reached by means of removable ladders.

I pierce the side and end walls of my car, thus providing port-holes 30, through which the guards may take observations and from which they may shoot in case of attack.

The side walls of the vertical partitions 11 do not extend vertically to the roof 12, but are bent outward to an angle and meet the roof 12 at its junction with the side walls of my car, where all three parts are properly connected. (See Fig. 7.) The oblique wall 31 is provided with windows 32 for the purpose of lighting the outer chamber or passage-way 22.

The purpose of my cushioned floor and bottom is to protect the bottom of my car, for it is apparent that if a charge of dynamite or other explosive should be exploded within the car the concussion would depress the floor (through the action of the springs) instead of wrecking the car, and if exploded under the car the concussion would (for the same reason) lift the bottom instead of wrecking the car or lifting it from the track.

The manner in which I handle or operate my car (which may vary with conditions) is generally as follows: In case of attack (the car being manned by the usual number of agents, clerks, and guards) the engineer gives the danger signal, (which signal may be changed daily or upon each trip,) when the guards, messengers, or agents prepare for defensive or offensive operation, first closing the doors 18 of the vestibules 17 and the door 19 of the inner chamber 21, themselves remaining in the outer chamber or passage-way 22. One man now mounts the lookout-scaffold 28 at the forward end of the car, from which he can overlook the engine-cab and with his firearms can protect the engineer and fireman, while the rest of the "force" may be stationed at the loopholes 30, from which positions they may observe or fire upon the attacking party. Now should the attacking party succeed in getting near enough to throw bombs underneath the car and said bomb should explode the concussion would result in lifting the bottom plate 5 without wrecking the car, owing to the cushioning thereof by means of the before-mentioned springs 3 and 7, and should they succeed in getting into the inner chamber 21 they can there be trapped by closing the sliding doors 24, which doors may be operated, (opened or closed,) from the passage-way 22. Then should they attempt to wreck the car from within and should explode a bomb the concussion thereof would depress the floor 8 (through

the action of the springs underneath it) instead of wrecking the car.

I do not wish to confine myself to the exact mechanical construction herein shown and described, for it is apparent that it might be changed without departing from the spirit and intent of my invention.

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

1. The combination with the running-gear and superstructure of a mail and express car, of the cushioned floor embodying a frame, a horizontal plate affixed to the said frame, a floor-plate incased by the upper portion of the said frame and parallel with the said fixed plate, springs intermediate the said fixed plate and the said floor-plate, a bottom plate incased by the lower portion of the said frame and parallel with the said fixed plate, and springs intermediate the said fixed plate and the said bottom plate substantially as shown, and for the purposes specified.

2. The combination with the running-gear and superstructure of a mail and express car, of a longitudinal elevation mounted upon the deck or roof of the said car, having top and side lights therein, and a grating or shield overlying and surrounding the said top and side lights, substantially as shown and for the purposes specified.

3. The combination with the running-gear of a mail or express car, of a superstructure embodying a vestibule in each end of the said superstructure, and doors opening inwardly thereto, and having the space intermediate the said vestibules subdivided into a chamber and an antechamber, said chamber being adapted to serve as a receptacle for the merchandise, mail and money, and the said antechamber being adapted to serve as a passage-way around the said chamber or receptacle,

doors leading from the said vestibules to the said antechamber, said doors being adapted to being locked from the antechamber side only; a door leading from the said antechamber to the said inner chamber or receptacle, said door being adapted to be locked from the antechamber side only, passage-ways leading through the said antechamber from the said inner chamber or receptacle to the outside of the said car, sliding doors closing said passage-ways, said doors being operable only from within; stairways leading upward to and downward from the roofs of the said passage-ways, said stairways being adapted to serve as a means of entrance and exit to and from the portions of the antechamber separated by the said passage-ways; lookouts or scaffolds for watchmen in the said vestibules, and ladders leading to the said lookouts, all substantially as shown and for the purposes specified.

4. The combination with the running-gear and superstructure of a mail or express car, of the port-holes, the lookouts or scaffolds adjacent thereto, and the ladders or stairways leading thereto, substantially as shown and for the purposes specified.

5. The combination with the running-gear of a mail or express car, of the superstructure embodying an inner chamber lighted from above, an outer chamber entirely surrounding the said inner chamber, and lighted from above and through the walls separating it from the said inner chamber, a door leading from the said outer chamber to the said inner chamber, and port-holes opening outward from the said outer chamber substantially as shown and for the purposes specified.

WM. B. YOUNG.

Witnesses:

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H. J. WATERS.