(No Model.)

J. OLSSON & J. W. STOREY.

TREASURE VAULT FOR RAILWAY CARS.

No. 385,640. Patented July 3, 1888.

Fig. I.

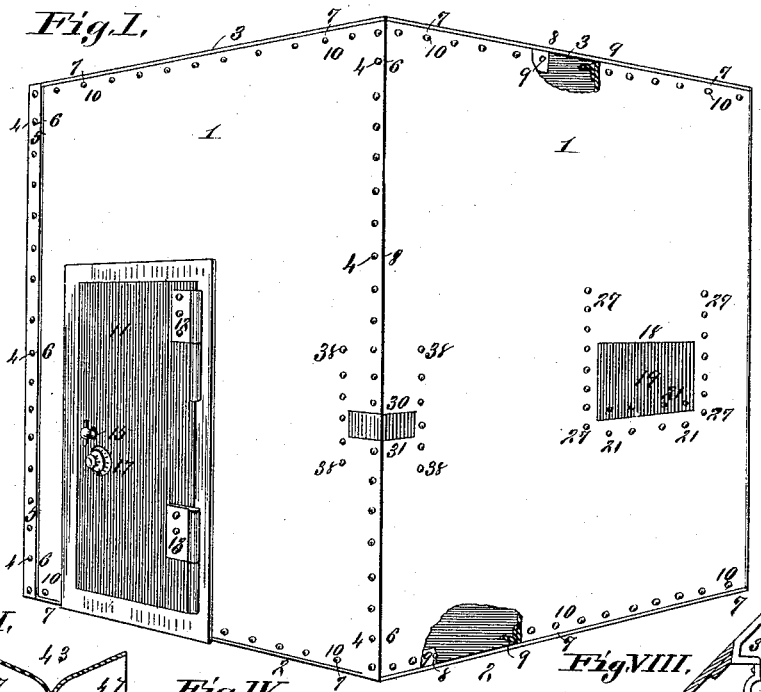

Fig. II.

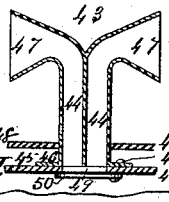

Fig. III.

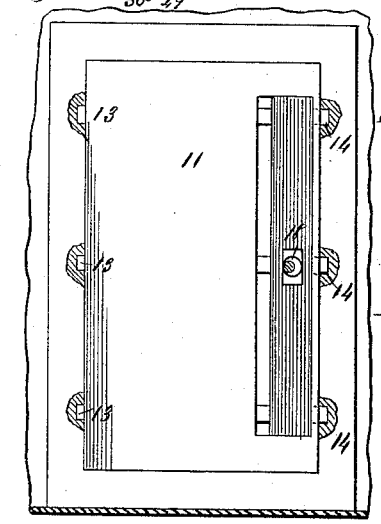

Fig. IV.

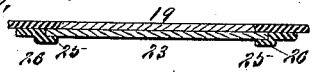

Fig. V.

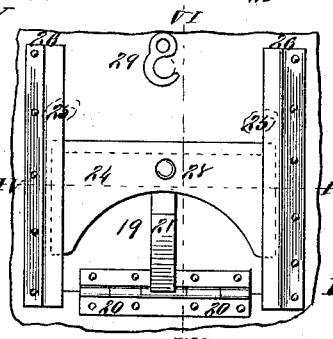

Fig. VI.

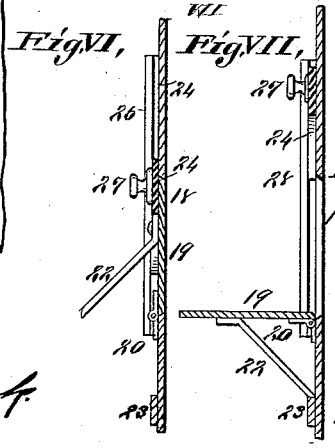

Fig. VII.

Fig. VIII.

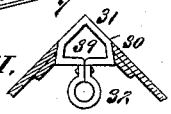

Fig. IX.

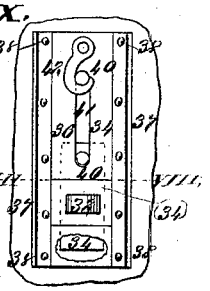

Fig. X.

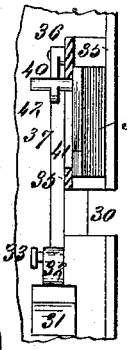

Fig. XI.

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UNITED STATES PATENT OFFICE.

JOSEPH OLSSON AND JULIUS W. STOREY, OF COTTON GIN, TEXAS.

TREASURE-VAULT FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 385,640, dated July 3, 1888.

Application filed January 9, 1888. Serial No. 260,202. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH OLSSON and JULIUS W. STOREY, both of Cotton Gin, in the county of Freestone and State of Texas, have invented a certain new and useful Improvement in Safety Treasure and Messenger Vaults for Railway-Cars, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure I is a perspective view of the vault, with parts broken away to show the angle-irons that secure the corners together. Fig. II is a sectional view of the bell-mouthed ventilator-tubes that relatively connect both the bottom and top of the vault with the open air below and above the car. Fig. III is an inside view of the door with part broken away to show the bolts that re-enforce its hinged attachment on one side and the throw-bolts of the combination-lock on the other. Fig. IV is a horizontal transverse section taken on line IV IV, Fig. V, showing the relative positions in horizontal cross-sections of the office-window shutter and the drop-bar that fastens it. Fig. V is an inside view of the office-window shutter closed and the drop-bar that secures it. Fig. VI is a vertical section taken on line VI VI, Fig. V, showing the relative positions in section of the office-window shutter when closed and the drop-bar that guards it. Fig. VII is a like view in vertical section, showing the bar elevated and the office-window open. Fig. VIII is a horizontal cross-section taken on line VIII VIII, Fig. IX, showing the port-hole barred by the plug. Fig. IX is an inside view showing the port-hole closed by the plug and the drop-key locking the plug in its seat. Fig. X is a like view in section, showing the drop-key elevated, the port-hole open, and the withdrawn plug suspended on its pin, ready at hand for immediate insertion if the port-hole requires closing; and Fig. XI is a perspective view of the plug for closing the port-hole.

This invention relates to devices for the construction and guarding of treasure-vaults for railway-cars, &c., and for the protection of the persons of express-messengers and others who have the charge thereof; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, in which figures of reference indicate like parts in all the views, 1 represents the side, 2 the bottom, and 3 the top sections of the vault. The said sections are preferably constructed of three-eighths steel plate, which has generally been found to be bullet-proof.

The side sections are preferably connected together at their vertical corners by making a corresponding series of rivet-holes, 4, near the side edges of the same, and making a turned flange, 5, at a right angle at one of said edges, so that it will embrace the corresponding edge of the adjoining plate, when, as the rivet-holes of each plate are made at corresponding distances, they will be in coincident positions, ready to be secured together by the rivets 6, which are then riveted in their seats. The bottom and top edges of said side sections or plates and the edges on all four sides of the bottom and top plates are also perforated with like equidistant rivet-holes 7, that correspond with rivet-holes 8, that are made in the two flanges of the four angle-irons 9, which fit inside the corner junctions of the side sections with the bottom and top sections. Rivets 10 are seated in said holes through the side sections and angle-irons, also through the bottom and top plates and angle-irons, and are riveted therein. The various sections of the body of the vault are by these means firmly secured together. These vaults will seldom be required to be built of a larger size than are adapted for the use of single steel plates for the individual side, bottom, and top sections, so as to have said sections integral, and the body of the vault is then without joints, except at the corners; but where large vaults are required, too large for single plates to inclose a side, the sections may be resectioned, and are in that case riveted together at their junctions, as shown at the corner connections of the sides, or the plates may be placed edge to edge and secured, as shown, in the junction of the side pieces to the bottom or top by a double row of rivets (one on each side of the joint) that pass through the adjoining plates and through a coupling metal batten back of the joint to which the plates are thus riveted.

11 represents the door, which, besides being hung with heavy hinges 12, has the usual safe-door catch-bolts, 13, at its back edge, three of

which are shown in the drawings. In its front edge it also has the usual simultaneous acting throw-bolts, 14, which are actuated, in the usual way adopted for safes, by the handle 15, and when the operator is inside the vault by the handle 16. It is also provided with a combination-lock of any usual construction common in safes for locking the throw-bolts in their operative position, which lock is actuated by the usual combination index rotary handle 17.

18 represents the office-window, through which the express-messenger takes in and delivers express-packages when the safety-vault is also being used as an office. This open window is provided with a combined desk-shelf and shutter, 19, which is secured to the lower edge of the window by a long hinge or hinges, 20, that are fastened to the side wall and shutter by rivets 21, and when used in the capacity of a desk is supported by a brace-bracket, 22, that rests against a horizontal cleat, 23. When, however, the office is closed at times that packages are not being received or delivered, and the desk is not required to be used, the desk-shelf is raised into its closed position, and then becomes a bullet-proof shutter that effectually closes and guards the window, for it, as well as the door, is constructed of the same material and of the same thickness as the walls of the vault.

24 represents a drop gate or bar, the vertical edges of which are seated in the channel-grooves 25, formed by the vertical flanged cleats 26, that are secured to the side walls of the vault by rivets 27.

28 is the button or knob by which the said bar is elevated or lowered. When the window is closed by the shutter 19, the said drop-bar is allowed to drop down behind it and firmly bars it from reopening from the assault of train-robbers from without.

When the window is open for the reception of express-packages, the bar may, if it is preferred, be let down, as the arch beneath it leaves room for the reception and delivery of packages and parcels within the size usually required to be preserved within the treasure-vault. When, however, it is desired to utilize the whole opening of the window, the bar can be elevated and the hook 29 made to catch around the stem of the knob to retain it in its elevated position.

30 represents a port-hole through which the express-messenger or his guard can shoot at the train-robbers if they effect an entrance within the car in which the treasure-vault is located. A hollow steel angle-plug, 31, is provided with a ring-handle, 32, at its rear, by which it is readily handled for the insertion of said plug in the port-hole when it is desired to inclose the same to make it invulnerable to the attacks of the train-robbers. The same ring offers a ready means of securing the plug when not in use by hanging it on the pin 33 close to the port-hole.

34 represents a drop angle-bolt, that fits in the corner above the port-hole and slides vertically within the chamber 35, that is inclosed by the cross corner partition 36, whose flanged edges 37 are secured to the side walls by rivets 38, that pass through and are riveted to said parts. The said drop-bolt in its operative position is seated within the opening 39 in the hollow of the angle-plug, and as it (the said bolt) is held by the conjoint corners of side walls of the vault the plug is then immovably held in position, thereby closing the port.

40 is a lifting-pin that projects from the drop-bolt through the elongated slot 41 in the partition. When the messenger or guard requires to use the port-hole, he elevates the drop-bolt by lifting the pin 40 to the top of the slot and then catches the hook 42 on the pin, which retains it in its elevated position. He then withdraws the plug and hangs it on the pin 33 ready at hand for future use.

43 represents the ventilator, that may be made to communicate with the open air below the floor or above the car or through its sides. It consists of twin tubes 44, whose flanged ends 45 are secured relatively beneath or above to the bottom and top of the vault or on its sides by screw-nutted bolts or rivets 46.

The flues have bell-mouths 47, for the reception and discharge of the air that passes through them in the course of ventilation, and apertures 49 through the bottom, top, or side of the vaults, through which they take and discharge said air. Apertures 48 are also made through the floor, roof, or sides of the car, according to the position given to the flues, to allow their exit from the vault to the outer air.

50 is a damper at entrance 49 to the ventilator to regulate the volumes of draft or close it entirely.

In most cases it will be found sufficient to pass the ventilators through the top of the vault and roof of the car; but we do not (as stated) confine ourselves to that position, as, especially in warm climates, it may be preferred to also ventilate through the bottom or sides of the vault and car.

It will be seen that the interior defenses of the vault can be kept fortified whether the messenger or guard are at the time being inside or not, and as the throw-bolts of the door are fastened by a combination-lock with its usual index-handle the vault cannot be entered by either train-robbers or any other party that does not know the combination.

If the train is attacked by train-robbers, the messenger and guard, if not already within the vault, can immediately post themselves in their fortified position, and, if expedient, can take in other deputies with them to assist in holding the fort. The plug may then be withdrawn from the port-hole and hung on the pin beneath the port, ready for use in restopping the port, if it is found necessary to do so.

We have shown only one port-hole; but we do not so confine ourselves, for others may, if

desired, be placed in any suitable position for the defense—such as through both safety-vaults and car to protect the engineer, &c.

The vault may be placed in any position desired in the express-car, tender, or coal-box, &c., either angling, so as to form an oblique presentation to the line of fire of the train-robbers, or it may, if desired, be placed squarely against one end or corner, for the steel plate, which is preferably about three-eighths of an inch thick, is considered to be bullet-proof to a point-blank fire of guns of usual caliber.

The vaults are also designed to be placed and used at the local freight and express offices along the line of railroads, or in any other suitable place where it is desired to defend treasure and the lives of those in charge thereof from the attacks of burglars.

We claim as our invention—

1. A safety treasure-vault for express cars, &c., with the combination of the walls 1, floor 2, and roof 3 of the vault constructed of bullet-proof steel plate riveted together at their corners, and the angle-irons 9, to which the walls, floor, and roof are riveted, the bullet-proof steel-plate door 11, the parcel-delivery window 18, the combined desk-shelf and bullet-proof shutter 19, the said vault provided with a port-hole, 30, and the bullet-proof plug 31, that stops the port-hole, substantially as described, and for the purpose set forth.

2. A safety treasure-vault for express-cars, &c., with the combination of the walls, floor, and roof of the vault constructed of bullet-proof steel plate, the flanged coupling-edges of the side plates provided with perforations in said flanged edges and the edges of adjoining plates and the rivets that connect said plates, perforated angle-irons and the bottom and top plates provided with corresponding perforated edges and rivets that secure said plates to the angle-irons, the vault provided with a port-hole and angle-plug that stops the port-hole, and the drop-bolt 34, that fastens the plug in its seat, and the catch-hook 42, that holds said bolt in suspension when inoperative, substantially as and for the purpose set forth.

3. A safety treasure-vault for express-cars, &c., with the combination of the bullet-proof steel-plate walls, floor, and roof of the vault, and means for attachment of said plates, the parcel-delivery window, the combined desk-shelf and bullet-proof shutter for fortifying the window, the brace-bracket 22, that supports the same when a desk, and the arched drop shutter-bar 24, that fortifies the shutter from the attack of train-robbers, substantially as and for the purpose set forth.

4. A safety treasure-vault for express-cars, &c., with the combination of the bullet-proof steel-plate walls, floor, and roof of the vault, with means for securing their sections together, the ventilator-flues 44, having oppositely-presented openings that communicate with the interior of the vault and the open air, and the damper 50, that regulates or closes the draft, substantially as and for the purpose set forth.

5. A safety treasure-vault for express-cars, &c., with the combination of the bullet-proof steel-plate walls, floor, and roof of the vault, the bullet-proof door secured by a combination-lock, the parcel-delivery window, combined shutter and desk-shelf in connection therewith, and the arched bar that works in the channel-grooves 25 and when dropped behind the shutter fortifies the same against the attack of train-robbers, and the catch-hook 29, that holds said bar, when inoperative, in suspension, substantially as and for the purpose set forth.

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JULIUS W. STOREY.

In presence of—
P. H. BURKHALTER,
J. F. STOREY.