(No Model.)

W. S. KISINGER.

EXPRESS CAR.

No. 453,645. Patented June 9, 1891.

FIG. 1.

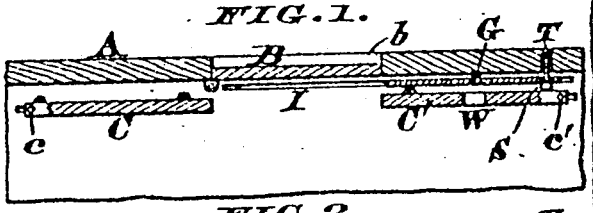


FIG. 2.

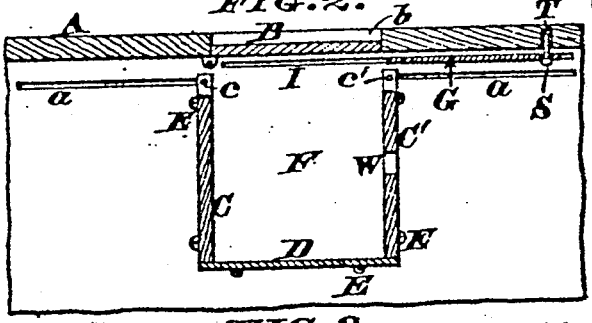


FIG. 3.

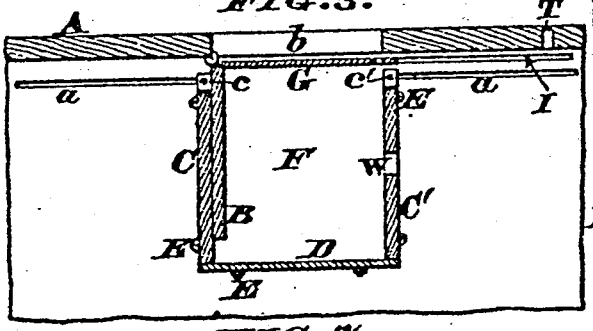


FIG. 7.

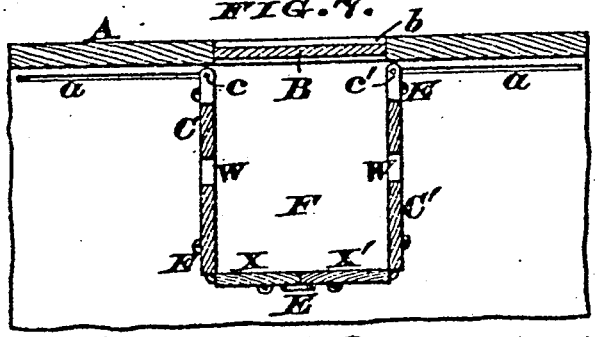


FIG. 6.

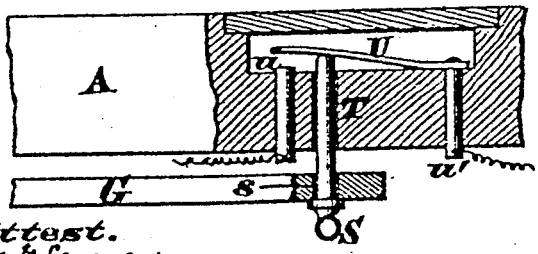


FIG. 4.

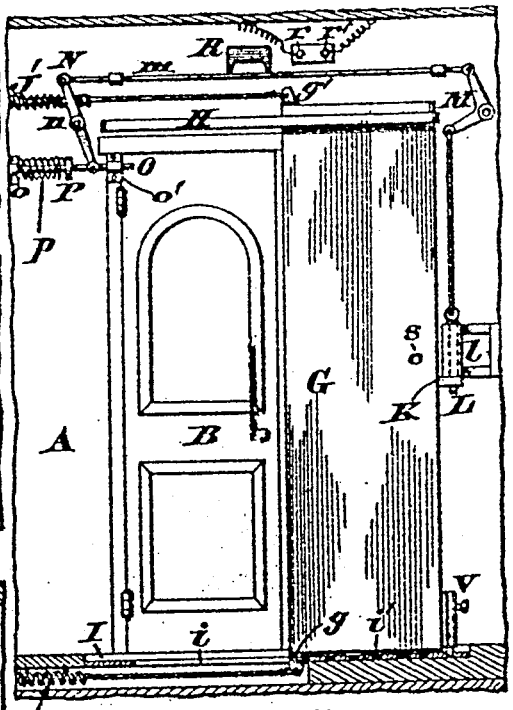
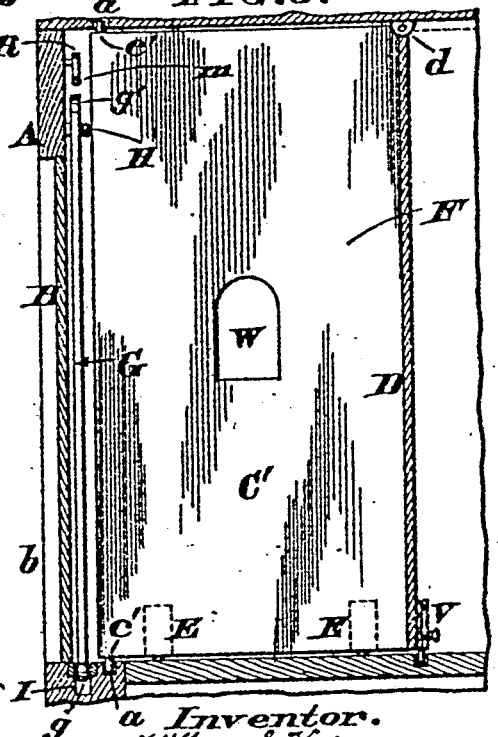


FIG. 5.



Attest.
Chr. G. Layman.
Arthur Moore.

a Inventor.
William S. Kisinger
by James F. Layman.
Atty.

453,645. EXPRESS-CAR. William S. Kisinger, Bellevue, Ky., assignor to Stiebel, Kisinger & Stiebel, Cincinnati, Ohio. Filed Dec. 15, 1890. Serial No. 374,688. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. KISINGER, a citizen of the United States, residing at Belle-

vue, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Express-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form part of this specification.

This invention relates to those railroad-cars which are employed more particularly for expressing goods, money, packages, and other valuables; and my invention comprises a peculiar arrangement of partitions or doors for such cars, which doors are so constructed and applied as to permit the ready loading and unloading of freight, but can be fixed as a trap that automatically imprisons any train robber who attempts to enter where the goods are stored. These doors or partitions may be applied either to the side or end of the car, but preferably to the end, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a horizontal section of that portion of an express-car to which my improvements are applied, the various doors and partitions of the trap being in their normal or inoperative positions. Fig. 2 is a similar section, but showing the partitions arranged to form the trap, the sliding door of the same being retracted. Fig. 3 is another horizontal section in which this sliding door is seen in its advanced position. Fig. 4 is an enlarged elevation of the retracted sliding door and its accessories, the side partitions of the trap being omitted. Fig. 5 is an enlarged vertical section of the trap. Fig. 6 is a horizontal section of the locking device of the sliding door. Fig. 7 is a modification of my invention.

A represents a portion of the side or end of a car designed more especially for the transportation of express goods and other valuables, and *b* is a passage-way in the same, having an ordinary inwardly-opening door B.

C C′ are shiftable partitions having pivots *c c′*, that traverse grooves *a* of the car, and adapted when thrown wide open to stand about parallel with the side or end A of the same, so as not to interfere with the loading and unloading of freight. D is another partition, preferably made of iron, and hinged to the ceiling of the car, as seen at *d* in Fig. 5. E are bolts or other handy fastenings wherewith these three partitions are locked to the car-floor, thereby affording a trap or apartment F at the entrance.

G is a supplementary sliding door applied near the side or end of the car, and adapted to travel in a path parallel to the same, so as to effectually barricade the passage *b* as soon as the door B has been opened wide enough to permit a person to enter the special apartment F. This supplementary door is preferably guided by a bar H near its upper end, and a grooved track I at bottom, the latter being slotted longitudinally at *i* to permit a free passage of lug *g*. Lug *g* projects from the bottom of the door and a similar lug *g′* from the top of the same, which devices *g g′* have coupled to them the ends of powerful pulling-springs J J′, that have a constant tendency to draw said door forward and cause it to close the passage-way *b*. To resist this pull the door must be provided with a secure fastening that can be readily liberated at the proper moment, the arrangement here shown being preferred, although the invention is not limited to any special device or devices. This arrangement includes a perforated lug or staple K, projecting horizontally from the rear edge of the door, as seen in Fig. 4, which lug admits a vertically-acting bolt L, traversing a fixed guide *l*, and pendent from a bell-crank M, the latter being connected by a rod *m* to the upper end of a lever N, pivoted at *n*, to a proper bearing or support. The lower end of this lever is coupled to a sliding bar O, confined within guides *o o′*, and having a fixed collar P, which is pressed against by a spring *p* in such a manner as to advance said bar toward the door B. The connecting-rod *m* carries a metallic plate R, adapted to complete the circuit between two contact-points *r r′*, and thus ring an electric bell the instant the door B is opened. Sliding door G is preferably held open while the car is being loaded or unloaded either at the end of its route or at intermediate stations by a plug S, that enters a hole *s* in said door and then engages with a socket T in the end or side of the car. (See Fig. 6.) When thus inserted, the point of said plug comes in contact with a metallic spring-tongue U, thereby breaking an electrical circuit normally existing between two contact-points *u u′*.

V is a spring-catch adapted to bear against the end of slot *i* the instant door G is opened and prevents it being shoved back, except by some person in the main apartment of the car.

W W are openings, preferably made only in the side partitions C C′, to enable the express-messengers to fire upon any person caught in the man-trap, or to permit the delivery of small packages, &c. In the normal conditions of the aforesaid operative parts the partitions C C′ occupy the position seen in Fig. 1, while the sliding door G is retracted and held back by inserting the fastening-plug S, the insertion of which device S forces the free end of tongue U away from the contact-point *u*, thereby breaking the electrical current that rings the alarm bell or bells, it being preferred to have one bell or gong on the locomotive and one on each car in the train. The car can now be loaded with express goods and other valuables as readily as an ordinary car, because the passage-way *b* is not interfered with; but before the train starts the door B is closed and partitions C C′ swung around to the position seen in Figs. 2 and 3, and partition D is dropped down, after which act these partitions are locked in their new positions by the fastenings E. These precautions having been taken, plug S is with-

drawn, thereby permitting the tongue U to come in contact with the point *u*, and thus establishing a metallic circuit where a "break" previously existed. Furthermore, this withdrawal of plug S unlocks the sliding door G and leaves it at liberty to be operated wholly by the automatic attachments, which attachments act as follows: As soon as the ordinary door B is opened wide enough to enable a person to step inside the car, the upper part of said door near its hinged edge comes in contact with the projecting end of bar O, thereby overcoming the tension of spring *p* and forcing said bar back about an inch or so. As a natural result of this retraction of bar O, the rod *m* is shifted to the right, thus bringing the plate R in contact with the two points *r r'* and causing a violent ringing of all the electric bells on the train. Simultaneously with the shifting of rod *m* the bolt L is pulled out of lug K, and there being no longer anything to resist the powerful pull of springs J J', the sliding door G is instantly advanced to the position seen in Fig. 3 and imprisons the intruder within the trap or closed apartment F. The very moment the sliding door is thus automatically closed its spring-bolt V descends and bears against the end of slot *i*, so as to prevent the intruder pushing said door back and escaping by opening the outer door B. It is evident the intruder or intruders are now completely at the mercy of the expressmen, and if the intending burglars make any resistance they can be deliberately fired upon through the opening W. If this treatment does not pacify them, they can be subjected to a vapor bath of steam taken directly from the locomotive-boiler, or they can be showered with scalding water drawn from the same convenient source by means of suitable pipe connections. It is believed that either or all of these expedients combined will be sufficient to satisfy the most enterprising train robber.

The above is a description of the preferred arrangement of my invention; but the details of construction may be greatly varied, one evident modification being seen in Fig. 7, where the drop-partition D is omitted, the inner end of the trap being formed by flaps X X', hinged to the side partitions C C' and properly fastened where they meet. In another modification a flexible shutter formed of iron slats jointed together may take the place of the partition D and be coiled up near the ceiling of the car when not in use.

When my improvements are to be applied to the side of a car, the automatically-sliding door G can be omitted, as seen in Fig. 7, in which event either of the doors could be opened to enable the special apartment F to be filled with freight before the train arrives at a way-station. These doors would then be closed, and when the station is reached the agent can remove the freight without entering the main body of the car. He can then fill this apartment with the freight, and after the train starts the express messenger can open either of the doors and place the goods within the car, having first taken the precaution to see that there is no unauthorized person in the said apartment. Finally, it is preferred to provide the slotted track I *i* with a rack or ratchet bar *i'* to admit the bolt V, which prevents the sliding door G being forced back after being partially closed.

I claim as my invention—

1. In combination with a car having a passage-way and a main door that closes the same, a series of shiftable partitions constituting three sides of a temporary apartment within said car, a supplementary sliding door that forms the fourth side of said apartment, a device that automatically advances said sliding door, and a locking mechanism that holds the latter in its retracted position, said locking mechanism being liberated by the opening of said main door, substantially as herein described.

2. In combination with a car having a passage-way *b*, and an inwardly-opening door B hinged thereto, the pivoted partitions C *c* C' *c'*, drop-partition D *d*, fastenings E, supplementary door G, pulling-springs J J', lug K, bolt L, bell-crank M, rod *m*, lever N *n*, and spring-bolt O, which bolt is retracted by the opening of the outer or main door B, all as herein described.

3. In combination with the sliding supplementary door G of a car, the rod *m*, operating the liberating mechanism of said door, and carrying a plate R, that makes connection with the contact-points *r r'*, for the purpose described.

4. The combination, with a car, of a passage-way, a main door adapted to close the same and form one side of a special apartment, a pair of internal partitions, guides that permit these partitions to be drawn forward and then swung around to form the second and third sides of said apartment, another internal partition that constitutes the fourth side of said apartment, and devices that fasten said partitions in place, substantially as herein described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM S. KISINGER.

Witnesses:
JAMES H. LAYMAN,
FRANCIS M. BIDDLE.

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To

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