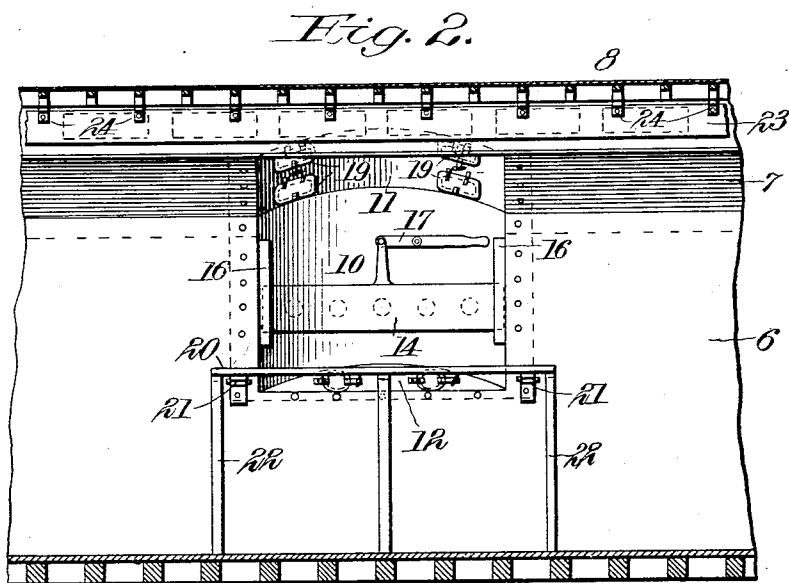
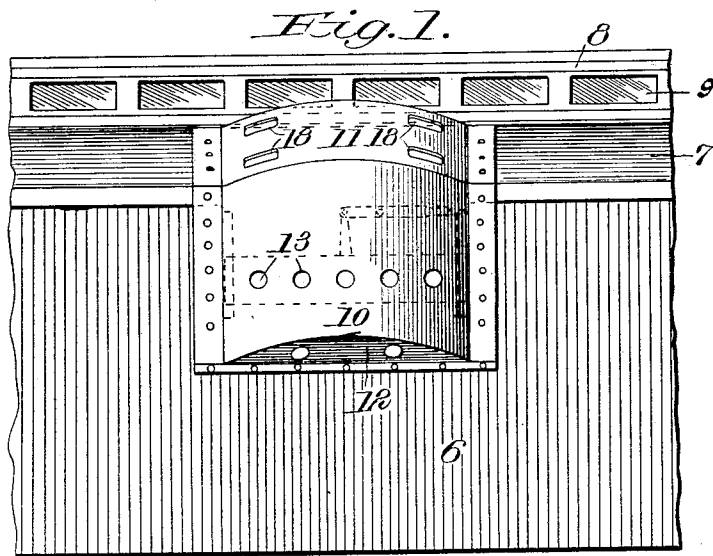


E. C. MANGELSDORF.
PROTECTED CAR.

APPLICATION FILED APR. 9, 1903.

2 SHEETS—SHEET 1.

NO MODEL.



WITNESSES:

E. H. Walker.

Geo. E. Jew.

INVENTOR

Edward C. Mangelsdorf

BY

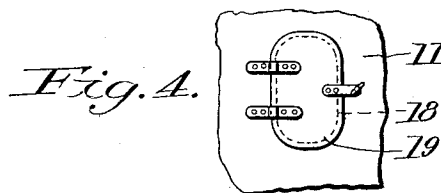
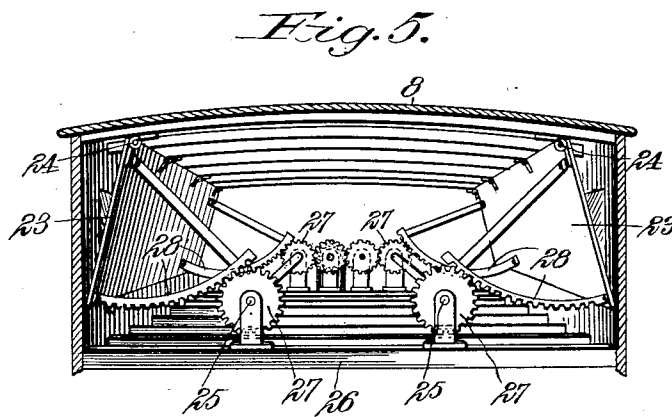
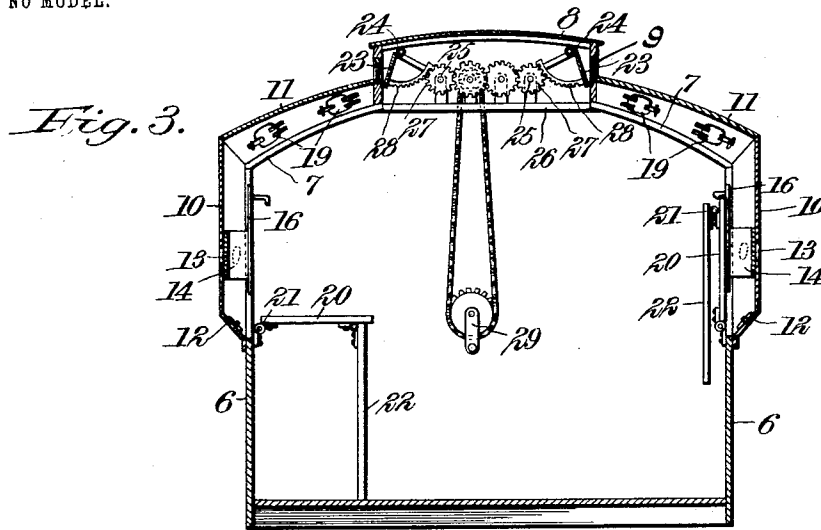
Milo W. Stevens & Co.
Attorneys

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2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD C. MANGELSDORF, OF ROCK ISLAND, ILLINOIS.

PROTECTED CAR.

SPECIFICATION forming part of Letters Patent No. 738,220, dated September 8, 1903.

Application filed April 9, 1903. Serial No. 151,787. (No model.)

To all whom it may concern:

Be it known that I, EDWARD C. MANGELSDORF, a citizen of the United States, residing at Rock Island, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Protected Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates particularly to burglar-proof express-cars; and it is the object of the invention to provide means whereby the messengers inside the car may defend the same against the attacks of train-robbers.

The invention includes shields provided with port-holes and projecting beyond the sides and the top of the car, so disposed that a person inside the car can command with his weapons the sides and top thereof.

The invention further comprises means whereby the ventilators in the roof of the car may be closed by metal plates to prevent robbers from covering the messengers through the ventilators, as is sometimes done.

With these and other objects in view the invention is hereinafter described and is illustrated in the accompanying drawings, in which—

Figure 1 is an outside elevation of a portion of a car, showing my invention. Fig. 2 is an inside elevation of the same. Fig. 3 is a vertical cross-section showing on one side a stand folded and the other side the stand open. Fig. 4 is a detail inside view of a cover for one of the roof-holes; and Fig. 5 is an inside perspective view of the roof of a car, showing the ventilator-protectors.

Referring specifically to the drawings, 6 indicates the sides of the car, 7 the roof, and 8 the deck, in the sides of which latter are the ventilating-transoms 9. At 10 is indicated a protective shield forming a section of the side of the car and joined to a shield 11, forming a section of the roof of the car. These shields are on each side of the car and may be located directly opposite or diametrically

opposite. In cars in which but one messenger travels it is advisable that the shields be placed directly opposite. These shields are made of metal plate of sufficient strength to withstand ordinary firearms, and they are bulged out beyond the surface lines of the car to give a command of the sides thereof. The side protectors 10 extend upward from about the middle of the car and are closed at the bottom by a plate 12. All the said parts are securely riveted together and to the car-body.

The shields 10 contain a row of port-holes 13, arranged to give command in various directions, and these port-holes may be opened or closed by a plate 14, which slides vertically within straps 16 and is operated by a lever 17, connected thereto. In the roof-shield are port-holes 18, directed toward the front and rear. They are closed by covers 19, hinged and latched within and preferably provided with a water-tight packing to prevent leaks.

Within the car and beside each shield is a folding stand comprising a top 20, hinged at 21 to the side of the car and having hinged legs 22. These stands may be ordinarily used as convenient tables or folded up against the side shield, as shown on one side in Fig. 3. When the car is attacked by robbers, the stands are let down to afford a convenient support for the messengers upon which to stand and fire through the ports 18.

The ventilator-protectors comprise plates 23, hinged at 24 to the deck of the car. These plates are preferably formed of metal to resist shots and may be swung to or from the ventilator-openings by any suitable and convenient mechanism. They extend the entire length of the car, and I have shown an operating mechanism permitting simultaneous action, consisting of two shafts 25, supported on cross-beams 26 within the deck of the car and carrying gear-wheels 27, engaging racks 28, attached to the plates. The shafts are rotated by a crank 29, conveniently positioned in one end of the car and connected by chain, sprockets, and gearing to the gear-wheels of the shafts. At the time of an attack the messenger may by a few turns of the crank swing the plates over the ventilator-openings and prevent attack by the robbers there-through. At other times the plates are swung

away from the openings to permit the customary ventilation.

The protectors above described may be applied to existing cars by removing a portion
5 of the sides and top, and as the shields are bullet-proof an effective means of defense is provided and any attack by robbers to reach any part of the car may be foiled.

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

1. A car having a portion of its side wall and roof proper made of bullet-proof material bulged outwardly, said bulged portion being open to the interior of the car and extending

laterally from the deck across the roof and
part way down the side, and having ports. 15

2. A car-ventilator shield comprising bullet-proof swinging plates hung from the deck, along beside the ventilators on each side, and means to simultaneously swing the plates to
or from the ventilators. 20

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

EDWARD C. MANGELSDORF.

Witnesses:

CARL L. ACKERLIND,
HARRY G. BROOKS.