

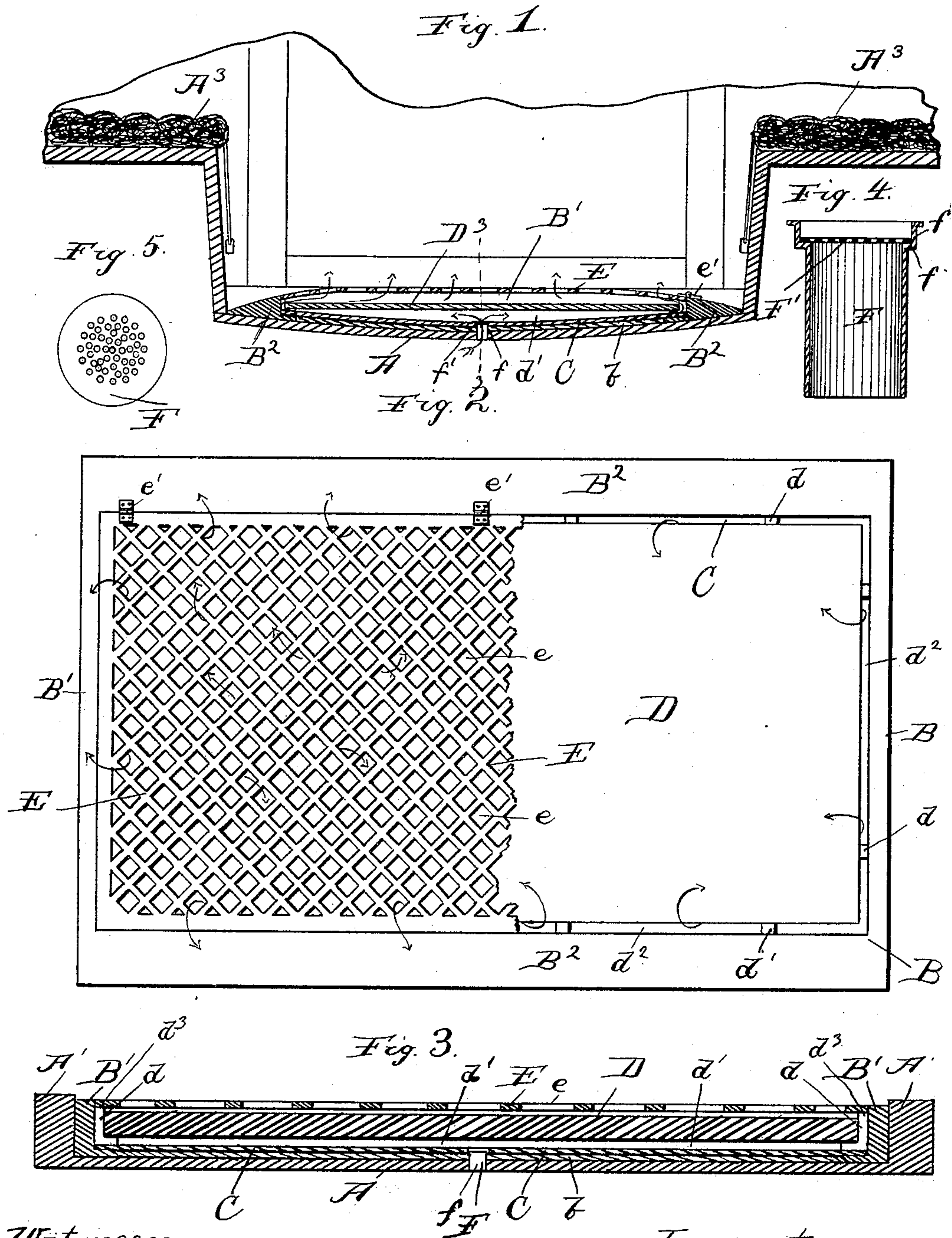
(No Model.)

G. A. BEACH.

CARRIAGE WARMER AND VENTILATOR.

No. 390,153.

Patented Sept. 25, 1888.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE A. BEACH, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO EDWIN E. WISE, OF SAME PLACE.

CARRIAGE WARMER AND VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 390,153, dated September 25, 1888.

Application filed February 24, 1887. Serial No. 228,648. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. BEACH, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Carriage Warmers and Ventilators, of which the following is a specification.

My invention relates to devices for warming and ventilating closed carriages, coupés, and other like vehicles.

The object of my invention is to provide a ventilating and warming device of a safe, cheap, simple, and efficient construction, which will operate both to heat and ventilate the carriage, and which will be entirely out of the way, and be no obstruction to getting in or out of the carriage, and in no way interfere with the comfort and convenience of its occupants.

In my invention I employ a heater-frame of a size adapted to fit in the bottom or floor of the carriage between the side rails or frame-pieces and between the front and rear seats of the carriage, or between the seat and front end of the carriage, if the same has only one seat, so that this frame, with its perforated cover or plate, covers the floor of the carriage and furnishes a smooth and level surface similar to the floor which it covers. The bottom or base of this frame is curved or shaped to correspond to the curve of the floor or bottom of the carriage, and at its front and rear edges the heater-frame is made wedging or curved, so as to diminish its thickness at such parts. As the heater-frame fits snugly in the floor-space of the carriage and has a base curved to correspond to the floor of the carriage, it will be held rigid and immovable in place and cannot be jostled about. This frame I provide with a series of interior ledges, upon which is supported a soapstone heater or other suitable heater. These ledges raise the soapstone somewhat from the base of the frame, so as to leave an air-space, preferably of about one-quarter or one-half an inch in thickness, between the bottom of the frame and the under surface of the heater-stone. The ledges also extend up at the edges of the heater-stone, so as to leave an air-space all around the edges

of the stone between the same and the heater-frame. The frame is also furnished with an interior bottom or base, upon which rests the heat-protecting sheet of the frame, which is preferably made of non-conducting material, such as asbestos. The bottom of the frame supports the asbestos bottom somewhat above the bottom or floor of the carriage, and serves also to catch all dirt or dust. Through the asbestos bottom of the heater-frame and through the floor of the carriage I provide a ventilator-opening fitted with a suitable thimble, the mouth of which thimble I cover with a perforated dust-plate. This ventilator-opening permits the fresh air to enter beneath the heater-plate and pass upward around through the air-passages between the edges of the heater-plate and the heater-frame. The ledges before mentioned, upon which the heater-plate rests, also afford at the top a support for the hinged perforated cover of the heater, and serve to support said cover a slight distance above the heater-stone, thus leaving an air-space between.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a longitudinal section of a portion of the carriage provided with my invention. Fig. 2 is a plan view of my heater and ventilator, a portion of the perforated heater-cover being broken away. Fig. 3 is a cross-section of the carriage on line 3 3 of Fig. 1. Fig. 4 is an enlarged detail section of the ventilator-thimble, and Fig. 5 is a plan view of the perforated dust-protector plate.

In said drawings, A represents the floor or bottom of a carriage. A' represents the two longitudinal side rails or frame-pieces of the carriage, and A² A³ the carriage-seats.

B represents my heater-frame, preferably of cast-iron, adapted to fit in the space of the front of the rear seat and between the side rails, A' A', of the carriage. The heater-frame B is curved at its ends B' B', which fit at the sides of the carriage to correspond to the curvature of the floor of the carriage, and the front and rear edges B² B² of the frame are made tapering, as indicated clearly in Fig. 1,

so as to diminish the thickness of the frame at these edges. The frame B is provided with an interior bottom, *b*, upon which rests the secondary bottom C, which is preferably made of non-conducting material, such as asbestos board. The frame B is also furnished with interior angle-ledges *d*, upon which rests the heater D, preferably made of soapstone or other like material. The angle-ledges *d* not only serve to support the heater-stone above the bottom plate, C, and furnish an air-space, *d'*, between the two, but also serve to keep the edges of the heater-stone from extending out to the frame B, and thus leave an air-space, *d''*, between the edges of the stone and the inner wall of the heater-frame. The ledges *d* do not extend up quite flush with the top of the heater-frame B, and the tops *d''* of these ledges thus form shoulders upon which the perforated heater-cover E rests. A narrow space of a quarter of an inch or more is left between the heater-cover E and the heater-stone D. The perforations or openings *e* in the heater-cover E may be given any desired form or configuration—such, for example, as is common in ordinary registers. They, however, should be small enough to prevent small articles of apparel, &c., which may be dropped from falling through the same.

The perforated cover E is provided with hinges *e'* at one side, by which it is connected to the heater-frame. The floor A of the carriage is provided with a ventilator-opening, *f*, and the non-conducting base C of the heater-frame is provided with a similar ventilator-opening, *f'*. In these ventilator-openings is fitted the ventilator-thimble F, which connects the two together. The thimble F is provided with an enlargement or bell, *f''*, at its upper end, forming a shoulder, *f'''*, upon which rests a perforated dust-protector-plate, F'. The fresh air may thus freely enter through the ventilator-thimble F and pass in through the air-spaces *d'* *d''* around the heater-stone and up through the openings *e* in the register-cover into the carriage.

The heater-stone D may be readily removed and replaced in its frame by simply raising the hinged register-cover E.

I hereby disclaim as not of my invention the devices shown and described in Patent No. 84,735, to Davidson; No. 181,437, to Hazelton; No. 212,403, to Russell and Russell, and No. 220,718, to Justh. In my invention the heater-frame fits and rests upon the floor of the carriage and itself constitutes a smooth supplemental floor for the carriage, and, while it is readily removable bodily from the carriage, it is held rigidly in place and prevented from jostling about by reason of its shape and by the fact that it fits snugly the entire floor-space in front of the carriage-seat, and, while my heater combines in itself all these characteristics, it is also so constructed as to operate as a ventilator and supply fresh warm air to the close carriage.

I claim—

1. The combination, with a carriage, of a bodily-removable heater-frame B, adapted to fit in and upon the floor-space in front of the carriage-seat and provided with a bottom, *b*, and angle-ledges *d*, heater block D, resting upon said angle-ledges to form an air-space all around between said heater-stone and said heater-frame, and a ventilator-thimble, F, forming a ventilating-opening through the floor of the carriage and the bottom of said heater-frame, and a perforated heater-cover, E, substantially as specified.

2. The combination, with a carriage, of a bodily-removable heater-frame, B, adapted to fit in and upon the floor-space in front of the carriage-seat, a perforated heater-cover, E, flush with the upper surface of said heater-frame and forming with said heater-frame a smooth and continuous supplemental upper floor for the carriage-space in front of the carriage-seat, said heater-frame having a perforated bottom, *b*, and angle-ledges *d*, and heater-stone D, resting upon said angle-ledges to form an air-space all around between said heater-stone and heater-frame, substantially as specified.

3. The combination, with a carriage, of a bodily-removable heater-frame, B, adapted to fit in and upon the floor-space in front of the carriage-seat, a perforated heater-cover, E, flush with the upper surface of said heater-frame and forming with said heater-frame a smooth and continuous supplemental upper floor for the carriage-space in front of the carriage-seat, said heater-frame having a perforated bottom, *b*, and angle-ledges *d*, and heater-stone D, resting upon said angle-ledges to form an air-space all around between said heater-stone and heater-frame, and ventilator-thimble F, extending through the carriage-floor and the bottom of said heater-frame, substantially as specified.

4. The combination, with a carriage, of a bodily-removable heater-frame, B, filling the space in front of the carriage-seat and resting upon the floor of the carriage, said heater-frame being provided with bottom *b* and angle-ledges *d*, a non-conducting bottom, C, a heater-stone, D, a perforated heater-cover, E, and a ventilator-thimble, F, extending through the floor of the carriage and said bottoms *b* and C and furnished with a perforated dust-protector plate, F', said heater-frame and its perforated cover constituting a smooth and continuous supplemental floor for the carriage, substantially as specified.

5. The combination of bodily-removable heater-frame B, having interior bottom, *b*, with non-conducting base-plate C, fitting upon said bottom *b*, angle-ledges *d*, heater-stone D, resting upon said angle-ledges *d*, hinged perforated heater-cover E, and ventilator-thimble F, having bell-mouth *f* and perforated dust-protector plate F', substantially as specified.

6. The combination of a carriage having a

curved floor in front of its seat with bodily-removable heater-frame B, having curved ends B' B', to fit the floor of the carriage, and tapering front and rear edges B² B², provided with
5 angle-ledges *d d*, a heater-stone, D, fitting upon said angle-ledges, perforated heater-cover E, bottom *b*, and non-conducting base-plate C, resting upon said bottom, said heater-frame resting upon the floor of the carriage and constituting, with its perforated cover, a smooth
10 supplemental floor for the carriage, substantially as specified.

7. The combination of a carriage having a curved floor in front of its seat with bodily-removable heater-frame B, having curved ends
15 B' B', to fit the floor of the carriage, and taper-

ing front and rear edges B² B², provided with angle-ledges *d d*, a heater-stone, D, fitting upon said angle-ledges, a perforated heater-cover, E, bottom *b*, and non-conducting base-plate C, 20 resting upon said bottom *b*, and a ventilator-thimble, F, there being continuous air-spaces between said base C, frame B, cover E, and heater-stone D, connecting with said ventilator-thimble, said heater-frame resting upon the
25 floor of the carriage and constituting, with its perforated cover, a smooth supplemental floor for the carriage, substantially as specified.

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Witnesses:

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