

(No Model.)

J. BRODERICK.  
DEVICE FOR WARMING VEHICLES.

No. 523,567.

Patented July 24, 1894.

Fig. 1.

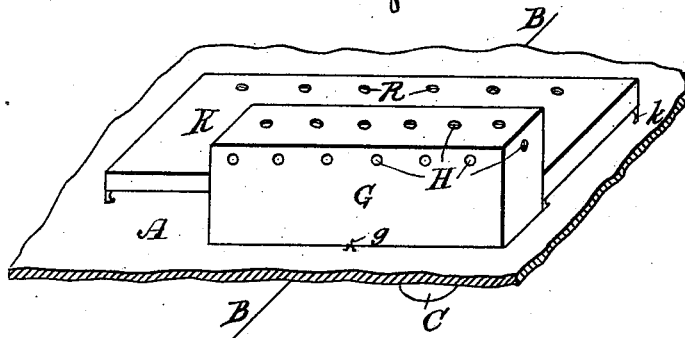


Fig. 2.

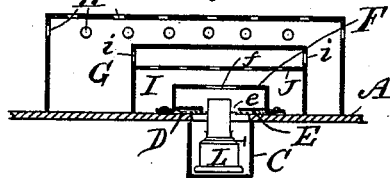


Fig. 3.

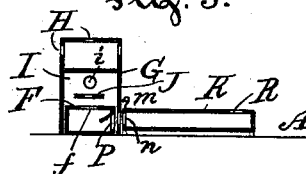


Fig. 4.

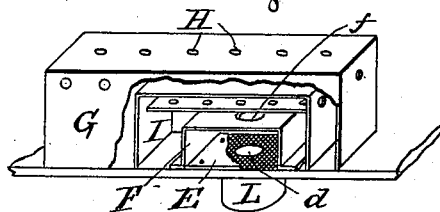


Fig. 5.

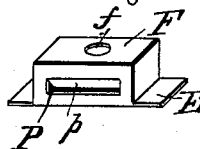


Fig. 6.

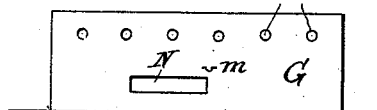
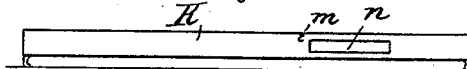


Fig. 7.



Witnesses:  
J. J. Lemaitre.  
H. Foley.

John Broderick  
Inventor.  
J. Courville  
Attorney.

# UNITED STATES PATENT OFFICE.

JOHN BRODERICK, OF FULDA, MINNESOTA.

## DEVICE FOR WARMING VEHICLES.

SPECIFICATION forming part of Letters Patent No. 523,567, dated July 24, 1894.

Application filed March 6, 1893. Serial No. 464,691. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN BRODERICK, a citizen of the United States, residing at Fulda, in the county of Murray, in the State of Minnesota, have invented certain new and useful Improvements in Devices for Warming Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is to provide a simple device whereby the occupant of a buggy or sleigh may be kept warm, by means of a small lamp placed in a suitable receptacle in the bottom of the vehicle, and also provides means whereby the heated air may be spread and all danger of fire obviated.

In the drawings,—Figure 1 is a perspective view of the device ready for use. Fig. 2 is a section through the heating box. Fig. 3 is a transverse section through the heating box and warming pan. Fig. 4 is a perspective view, parts being broken out to show the interior. Figs. 5, 6, and 7, show the lamp cover, heating box, and warming pan, respectively and openings whereby the heat is conducted into the latter.

A represents a portion of the bottom of the buggy box and the line B B, shows the position of the reach.

C is a receptacle projecting below the bottom of the vehicle and in which the lamp L is placed.

The aperture formed in the bottom of the buggy is closed by a perforated wire screen D having a central aperture *d* in which the chimney of the lamp fits snugly. A thin metal plate E is secured over this screen having a large aperture *e*. To this plate is secured the rectangular lamp cover F, which has a central aperture *f* in its top.

A rectangular heating box G is hinged by one side to the buggy bottom and secured by a fastening *g* at the other. Apertures H are formed in the sides, top and ends, for the escape of the heat into the buggy. In this heating box is formed an inner compartment I reaching the whole width of the box G, but leaving a space at the ends and the top. Perforations *i* are formed in the sides to allow the heat to escape into the space between the compartment I and the outer casing G. A perforated deflecting strip J is placed in this compartment I.

The operation of my device as far as described is as follows:—The heat or flame from the lamp passes up through the lamp chimney and is directed by the aperture in the lamp cover, so as to strike the deflecting plate in the interior chamber of the heating box. The heat then passes into the outer chamber and through the perforation into the buggy. The heat is thus so thoroughly diffused by passing from one chamber to another that there is no danger from fire to the robes or clothes of the occupants. The whole may, however be covered with a wire screen, if thought desirable.

In order to more thoroughly diffuse the heat, I make use of the warming pan K, consisting of a flat rectangular casing having feet *k* and attached to the heating box G by means of a hook fastening *m*. An aperture *n* is formed in the warming pan K on the side where it touches the heating box G, and an aperture N is formed in the said heating box registering with the aperture *n*. In the lamp cover F a similar aperture P is formed, only the metal is not cut away at the top but is bent inwardly forming a flap or deflector *p* which reaches over a small portion of the lamp chimney, and thus deflects some of the heat into the warming pan. Apertures R are formed in the top of the warming pan K on the side away from the aperture *n* to allow the heated air to escape.

I claim as my invention—

In a heating device for vehicles, the combination with a heating box, consisting of an inner and outer compartment having perforations communicating between the said compartments and a perforated deflecting strip in the inner compartment and having apertures allowing the heat to escape from the said outer chamber, of a flat warming pan, attached and communicating with the said heating box, having an aperture formed registering with an aperture in the said heating box, and having a flap or deflector on the said aperture projecting partly over the lamp or source of heat, substantially as set forth.

Signed at Fulda this 30th day of January, 1893.

JOHN BRODERICK.

In presence of—

EDWARD MOTT,  
WILSON BORST.