T. H. PRICE & T. F. WADE.

Heating Apparatus for Sleighs and Carriages.

No. 149,522. Patented April 7, 1874.

Fig. 1.

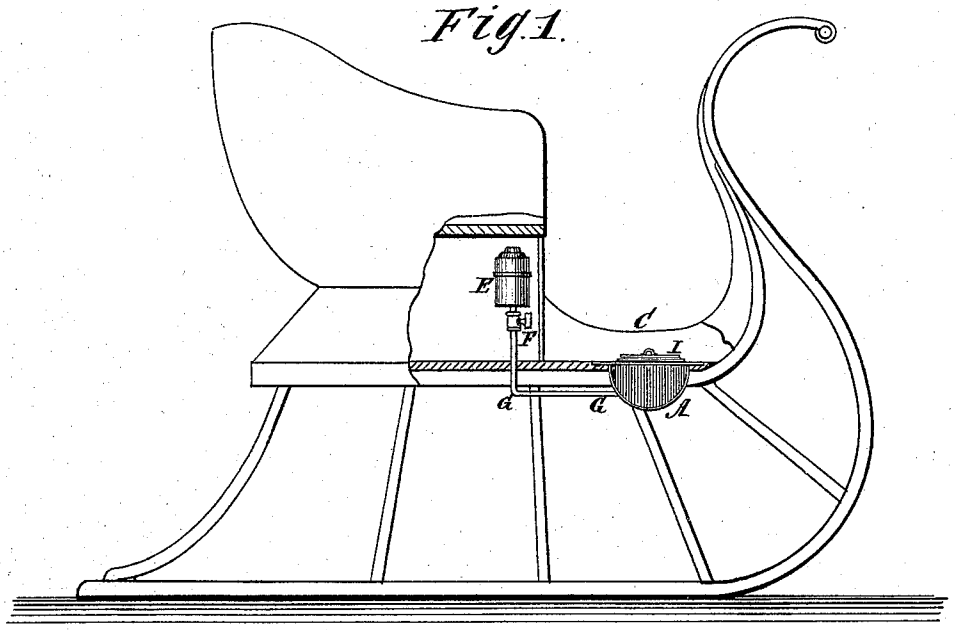


Fig. 2.

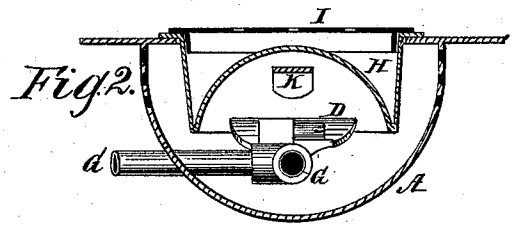
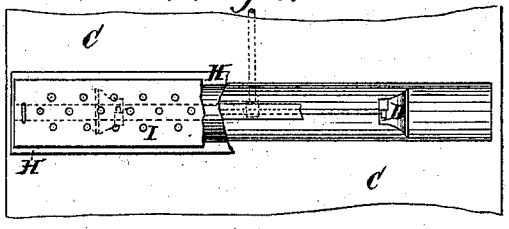


Fig. 3.



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AM. PHOTO-LITHOGRAPHIC CO. N. Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

THOMAS H. PRICE AND THEODORE F. WADE, OF LA FAYETTE, INDIANA.

IMPROVEMENT IN HEATING APPARATUS FOR SLEIGHS AND CARRIAGES.

Specification forming part of Letters Patent No. **149,522**, dated April 7, 1874; application filed February 17, 1874.

To all whom it may concern:

Be it known that we, THOMAS H. PRICE and THEODORE F. WADE, of La Fayette, in the county of Tippecanoe and State of Indiana, have invented a new and Improved Heating Attachment for Sleighs, Carriages, &c.; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a partly-sectional elevation of a sleigh with our improved heating apparatus attached. Fig. 2 is a cross-section of the heating apparatus proper. Fig. 3 is a plan view, reduced, and part broken out, of the apparatus and a fragment of the sleigh-bottom.

The invention is an improvement in heating or foot-warming attachments for sleighs; and relates to an air-heating box and a perforated case containing it, the same being applied to a sleigh-bottom in connection with a reservoir and burners for containing and consuming a suitable liquid hydrocarbon, as hereinafter fully described.

In the drawing, a metal case, A, preferably of semi-cylindrical form, and having perforated sides for admission of air, is applied to the bottom of the sleigh-body C, directly beneath the slot or opening therein, and secured by means of screws or other suitable devices. Burners D are arranged within this case, and the burning-fluid is conducted to them by a tube leading from a reservoir, E, located beneath the seat, or elsewhere about the sleigh, it being only necessary that it be above the burners, in order to cause the fluid to feed properly. To regulate the feed, a stop-cock, F, is provided in the tube G, as shown.

For producing the best effect, we prefer to employ a volatile hydrocarbon liquid to supply the burners, which are constructed in such a manner as to vaporize the same, and thus prevent formation or escape of smoke.

The upper side of the case A is formed by the concave bottom of a cast-metal box, H, which is supported by horizontal flanges, as shown. The object of making the bottom concave is to give more heating-surface and more space in box H, to prevent the sides of the box becoming too hot, and to confine the smoke (which forms when the burners are ignited) from passing upward. The cover of the box is a perforated plate, I, having vertical flanges to retain it in place, and forming, by its arrangement, a part of the concave bottom of the sleigh-body.

In practice, the bottom of the box H becomes unduly heated along the middle, and too little at other points. To obviate this difficulty, we arrange a bar, K, longitudinally beneath the center of the concave, and attach it to the ends of the box. It is requisite that the bar be of a quality to conduct heat with considerable facility, and for this reason copper or analogous material is preferable; but it may be cast in one piece with the box H.

By the arrangement above described, the cock F being turned, the oil flows to the burners, where it is ignited, and causes the concave bottom and adjacent or connected parts of box H to become heated. This in turn heats the air contained in it, which naturally escapes upward in contact with the feet and limbs of those occupying the sleigh. The fresh or colder air which enters the box is subjected to a like heat, and thus a constant and ascending current of hot air is established and maintained.

If the degree of heat be at any time too great, it may be readily lessened by turning the stop-cock, and thus diminishing the quantity of oil supplied to the burners.

If the apparatus be attached to a carriage, for use in the winter season, all its parts may be detached to adapt the carriage for summer use, save the perforated top of the box H, which will close the opening in the bottom.

Having thus described our invention, what we claim is—

The case A, having a flanged top and perforated sides, and the air-heating box H, having perforated cover I and concave bottom traversed by the bar K, said parts being combined and applied to the sleigh-bottom, as shown and described.

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