

(No Model.)

J. F. GIBSON.

COMBINED LAMP AND FOOT WARMER FOR VEHICLES.

No. 301,713.

Patented July 8, 1884.

Fig. 1

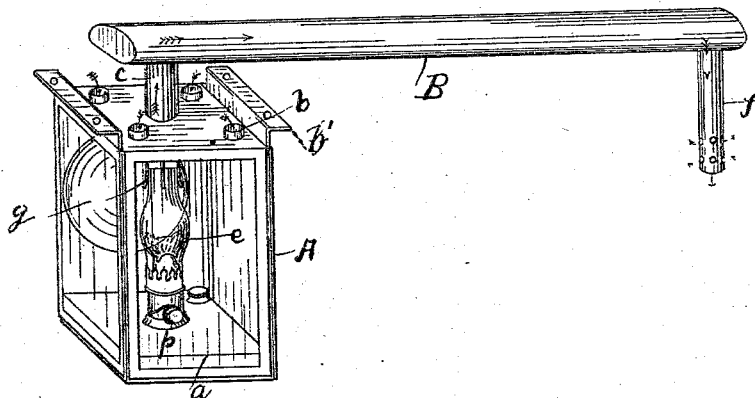


Fig. 2

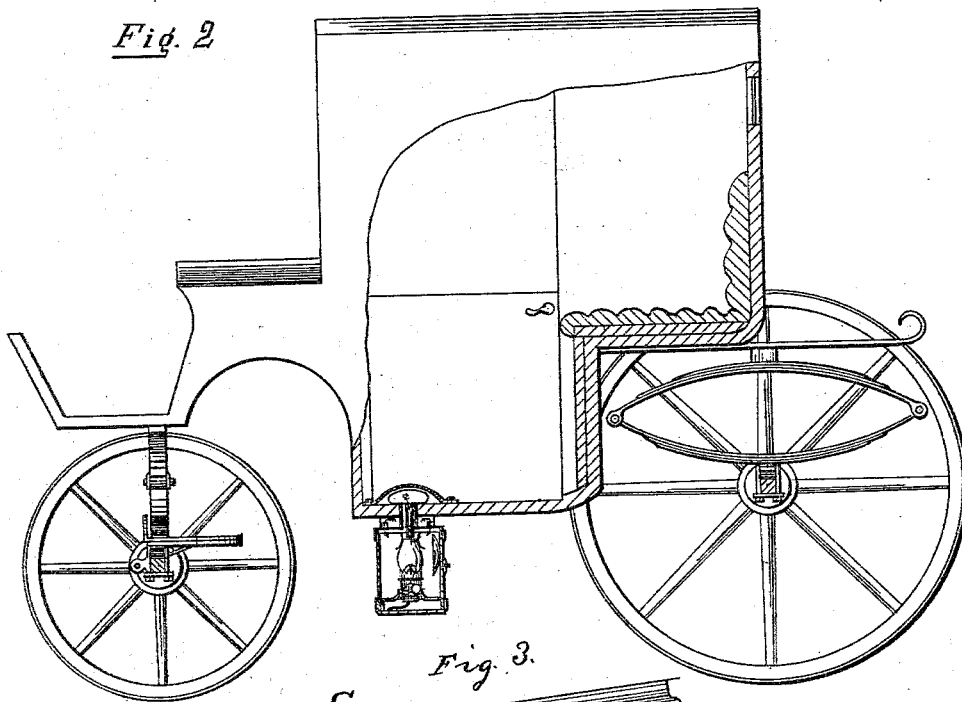
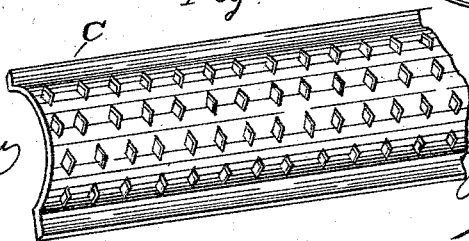


Fig. 3



WITNESSES
Geo. H. Harvey
A. Geo. Duffey.

INVENTOR
Jacob F. Gibson
per O. E. Duffey
Attorney

UNITED STATES PATENT OFFICE.

JACOB F. GIBSON, OF SPRINGVALE, PENNSYLVANIA.

COMBINED LAMP AND FOOT-WARMER FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 301,713, dated July 8, 1884.

Application filed September 25, 1883. (No model.)

To all whom it may concern:

Be it known that I, JACOB F. GIBSON, of Springvale, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Combined Lamp and Foot-Warmer for Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 letters of reference marked thereon, which form part of this specification.

My invention is a device for utilizing the heat of a carriage-lamp for warming the feet of the occupant.

Heretofore in devices of this kind the products of combustion have been discharged upon a piece of slate or the like set in the bottom of a carriage; but in these the material used was, in order to sustain the weight of a person in getting in or out of the vehicle, quite thick. Considerable heat was required in heating the material itself.

The object of my invention is to make the most advantageous use possible of the products of combustion emanating from the wick of a burning oil-lamp used on a carriage.

To this end my invention consists of a lamp of a construction particularly adapting it for the purpose secured underneath the floor of a carriage, and having a flue for conducting off the lost products of combustion, which flue is carried up through the bottom of a carriage, along which it extends for a short distance, when it turns at right angles and protrudes a short distance downwardly from the floor of the carriage to a point at which the smoke, &c., are discharged.

In the accompanying drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a view showing the mode of application to a carriage. Fig. 3 is a perspective of the shield and foot-rest.

In these drawings, A represents the frame of the lantern, which is formed, preferably, of light metal. Three of the sides are adapted for the reception of panes of glass, while the fourth is occupied by a metal door provided with a reflector for casting the rays of light forward upon the road. The lantern is formed with a false bottom, a, set a short distance

above the bottom, forming a water-tight receptacle for the oil. The false bottom is provided with a central screw-threaded opening for securing the burner *e*, which is of ordinary construction, except for the addition of a spring-pawl, *p*, which holds the wick-raising device against any turning caused by jarring. The false bottom has also a side opening provided with a screw-cap for use in filling the reservoir. The top of the lantern is provided with openings *b*, for the admission of air to promote the combustion of the oil, around which are raised collars to exclude any water that may accumulate on top of the lantern and to provide for the free admission of air. There is in the top an opening, preferably in the center, for the escape of the deoxidized air. The fastening of the lamp to the bottom of carriage is accomplished by means of the flanges *b'*, which are right angular in form, and which extend up a short distance, as shown, thus giving space between the top of the lantern and the bottom of the carriage for a free circulation of air necessary to carry off the unpleasant odors arising from burning oil, and to furnish the supply required to keep up the proper combustion. Experience has shown that openings for this purpose in the bottom or side of a lamp will produce undue combustion or extinguish the light; but I find that when the openings are made in the top the result is very advantageous. The flanges may, if desired, be made of spring material, so as to lessen the jar to the lantern caused by the jolting of the carriage. The chimney used is of the ordinary construction, and of a length to leave sufficient distance between its top and the top of the lantern for a free circulation of air; otherwise I find that the suction caused by air rushing past the outlet will put the flame out. This chimney is held from rising and secured from breaking by jarring by the spring-fingers *g*, which are secured to the top of the lantern and extend down and bear against the chimney, as shown. The hot smoke, gases, and air which has become heated by contact with the globe rise and by the draft are carried up through the pipe *c* into the drum B, and thence down through the discharge-pipe *f*. In their passage they heat the drum B. This drum made, preferably, of thin sheet metal, and is as large as can con-

veniently be accommodated, in order to furnish the greatest possible heating-surface. The drum being made of light material to insure a perfect radiation of the heat, it is necessary to protect it from injury when people are getting in or out of the vehicle. For this purpose I have provided the perforated shield C, which is made of cast metal or the like, and of the form shown, so as to protect the drum when it is secured to the floor of the carriage.

In some cases it is necessary to place a perforated screen in front of the lantern, either secured to the same or to the carriage, and depending in such a way as to protect the glass from mud and stones thrown from the horses' feet. This screen, if made of fine wire, will be found to make no material difference in the quantity of light thrown upon the road.

In applying the device there are first cut two holes in the floor of the carriage. Then the lantern is secured to the under side. After this the drum, with the pipes *c* and *f*, is placed in position. The pipes pass through the openings prepared for the purpose, the pipe *f* to the open air and the pipe *c* to the top of the lantern, to which it is secured by a "stuffing-box" or equivalent joint.

It will be evident from the foregoing that when the wick is lighted there will be a constant flow of hot smoke, gas, and heated air up through the pipe *c*, along the drum B, and down through the pipe *f* to the place of discharge.

Obviously the construction of flues, &c., described may be applied to conduct the products of combustion from an oil-stove or the like secured to the bottom of a carriage, and thus avoid the unpleasant odors that would naturally arise were the stove situated in the vehicle.

Having thus described my invention, what I claim is—

1. The combination, with the floor of a vehicle, of a lantern provided with the flanges *b'*, by which it is secured thereto, and having openings *b* in its top, and the drum B, attached to said top by the pipe *c*, and having at its opposite end the exit-pipe *f*, all substantially as and for the purpose described.

2. In foot-warmers for vehicles, the combination of the lantern having the right-angular flanges for attachment to the vehicle, which extend above its top for the purpose described, said top provided with the air-inlets *b* and the central outlet, and the drum B, communicating at one end with the outlet, and provided at its opposite end with an escape-pipe, substantially as shown, and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JACOB F. GIBSON.

Witnesses:

EDWARD E. ELLIS,
O. E. DUFFY.