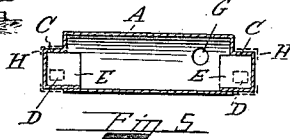
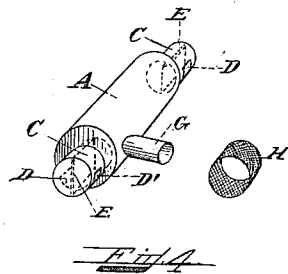
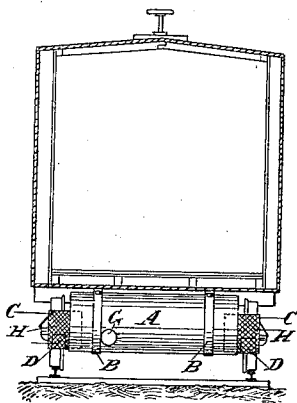
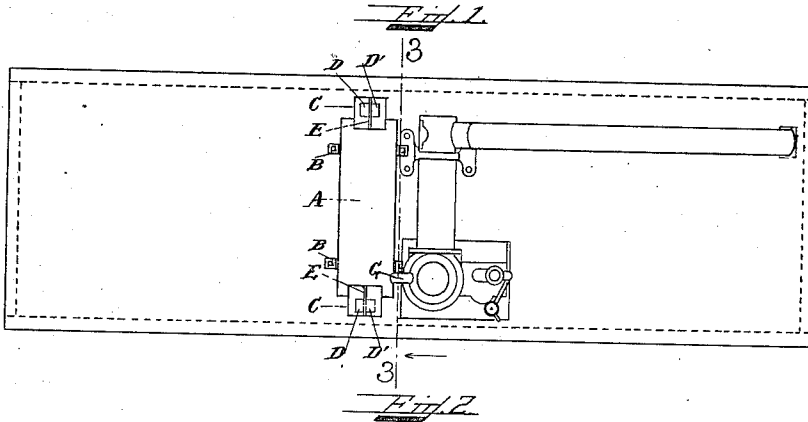
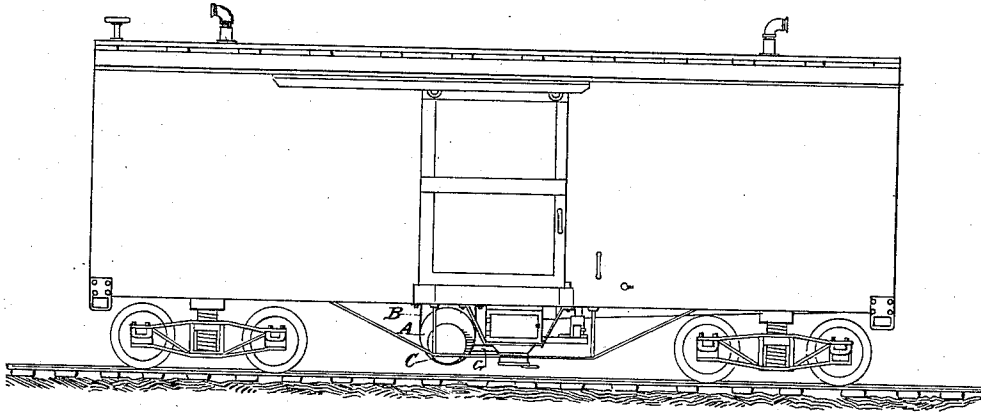


W. E. EASTMAN.
 APPURTENANCE TO HEATERS OF FREIGHT CARS.
 APPLICATION FILED APR. 6, 1911.

1,063,246.

Patented June 3, 1913.



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UNITED STATES PATENT OFFICE.

WILLIAM E. EASTMAN, OF BOSTON, MASSACHUSETTS.

APPURTENANCE TO HEATERS OF FREIGHT-CARS.

1,063,246.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed April 6, 1911. Serial No. 619,445.

To all whom it may concern:

Be it known that I, WILLIAM E. EASTMAN, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Appurtenances to Heaters of Freight-Cars, of which the following is a specification.

My invention relates to freight car heating apparatus.

The principal object of my invention is to provide for the burner a sufficiently quiet volume of air from which, under substantially even pressure, the flame may be fed. By the substitution of air reduced to comparative stillness from an agitated atmosphere filled with chaotic air currents, extreme unevenness of the flame is obviated; a maximum of heated atmosphere within a given compass is obtained; the accumulation of soot is reduced to a minimum; immunity from conflagration and attendant loss is insured; and other beneficial results that may be hereinafter specified. This object I attain through the principle illustrated by the device shown in the annexed drawings, and being the best form of embodiment now known to me.

Figure 1 is a side elevation of a freight car equipped with my invention; Fig. 2 exhibits diagrammatically the bottom of the car, approximately locating the heating apparatus; Fig. 3 designates a transverse section of a car, on dashed line 3-3 of Fig. 2; Fig. 4 is a detail, in perspective, of the air receptacle, with one of its hoods detached; and Fig. 5 denotes a longitudinal central section of the air receiver.

An air receptacle A, preferably cylindrical, is suspended transversely the car and to the bottom or under floor thereof, as in Fig. 1, by strap hangers B. From each end of said receptacle protrudes a hollow integral cylindrical member C, C, closed at its outward end, and located eccentrically in relation to the longitudinal axis of the receptacle A; the lower circumferential surface of each of said members having peripheral apertures D, D, which form, by means of a vertical partition E operating said apertures, substantially two air ports.

From the side of the receptacle A, contiguous to the heating apparatus, and communicating therewith, leads an air conduit G, for the flow of air, practically without agitation, to supply the oxygen neces-

sary to the life of the kerosene flame of the burner.

To exclude any debris from choking the ports D, D, hoods H, H, of wire netting conform to the members C, C, and envelop them when the apparatus is assembled, as shown in Fig. 3.

In operation, the cars being in transit, and there being no wind, the air, by reason of the movement of the car, rushes in through the ports D', D', assuming the direction of travel to be to the right, but striking against the partitions E, E, is deflected by them, and enters the cylindrical air receptacle A. But, at the same time, there is a tendency to form a vacuum at the ports D, D, and some of the air within the receptacle simultaneously flows out through the ports D, D. The result is that, as a fact, the air once within the receptacle is subjected to influences, that bring it to a condition sufficiently quiet and suitable to permit a constant and proper supply of air to flow through the air conduit C to the burner, so that the flame burns as desired, regardless of the atmospheric conditions outside of the apparatus.

It must not be forgotten that with all of the rigging found under a car body, such as wheels, trucks, air brakes, etc., there are an infinite number of diverse currents, resulting from the mere passage of the car over the rails; and when to those are added those resulting from changes in the force and direction of the winds, due to, say, the valleys, plains and the like through which the car passes in its various wanderings through the country, a lamp or flame which must burn steadily and evenly, can not do so, unless its surrounding atmospheric conditions will permit it. If, for example, when the car is under transportation, the air is unrestricted, as formerly, about the heating apparatus, it causes a fitful flame, the variable-ness of which seriously impairs the volume of heated air within the car, necessary for the preservation of its contents; and further, the passage of a blast of air beneath the car and heater, whether they are moving or standing, also tends to retard the proper ascent of heat to the car interior.

Under certain atmospheric conditions, the unimpeded force of the wind will drive the flame downward to such a degree that the fire becomes visible under the car, and in some instances, starts a destructive con-

flagration. The natural tendency of a kerosene flame is to smoke, and this condition is intensified when the burner is exposed to, and supplied by baffling blasts of air; the result often being, that the air passages in the heater become clogged, the flame in consequence goes out, and the freight is irreparably damaged. By stilling the agitated atmosphere in which the burner and flame must act, all of these evils are thoroughly eradicated.

While there may be many formal changes made in the details and arrangement of the several parts shown, I do not restrict myself to the specific embodiment herein given for the purpose of illustration, but I desire to protect my invention in the broadest manner legally possible.

What I claim is:—

1. The combination with an exterior heater for freight cars, of an air receptacle located transversely of and beneath the car and having openings in the front and rear sides of each end portion of the said receptacle; a deflecting wall obstructing the direct passage of air through the openings

at each end portion; whereby air entering the receptacle regardless of the force or direction of the air, will not objectionably affect the air within the receptacle; and means whereby air may flow to the flame of the heater.

2. The combination with an exterior heater for freight cars, of a cylindrical air receptacle, located transversely of the car, and having a cylindrical projecting member at each end; each projecting member having openings in the front and rear sides thereof; a deflecting member extending inwardly within each projecting member, whereby a current of air entering an opening, is deflected by said members, and must pass into the receptacle; and a conduit leading from the lower portion of the receptacle to the burner.

In testimony whereof I have affixed my signature, in presence of two witnesses.

WILLIAM E. EASTMAN.

Witnesses:

GEO. W. CAULKINS,
C. W. FITZ GERALD.