

O&W Ramblings
NYO&W Passenger Car Lighting – Part I
No. 57 in a Series

Passenger Car Illumination: Over time as technology advanced, the O&W utilized several differing means of providing hydrocarbon fueled interior lighting in passenger cars. In no particular order of importance (and also recognizing that often more than one type of lighting were employed contemporaneously) those methods are as follows:

Frost Gas: Was used by the O&W in passenger cars / coaches / Parlor Cars / Postal Cars and Baggage Cars from Pullman, Harlan & Hollingsworth and Ohio Falls, as well cars built in the Middletown wood car shops. The common OEM – builder usage was contained in cars built in the 1890's and then continuing up to 1910 when Frost Gas was then state-of-the-art.

The fuel used on the Frost Gas system was *gasoline*(!) Whereas and before the advent of motor cars, the principal 19th Century refinery output was kerosene, in demand for domestic lighting and as range oil, gasoline was a rare commodity. So-called “casinghead” gasoline (naturally occurring at the well head (as the name implies) was the 80 Octane fuel for the Frost lighting.

Cars using Frost casinghead gasoline had one or two cylindrical tanks (generators) beneath the car floor that were first packed with cotton “waste.” The term “Waste” was a specific textile industry term of art; -- meaning only that it was clean/ new cotton in lengths too short, from the carding machinery, to be spun into thread to feed the weaving looms. The gasoline vapors were drawn from the generators at minimum fuel / air pressure of 40 psi (or train line pressure) and piped to the multiple Frost “lamps” illuminating the car interior. A pressure gauge was in the toilet closets of cars employing the Frost system.

Those lighting fixtures were called “carburetors” (a carburetor technically being a only fixture designed to mix hydrocarbon fuel with air 13:1) and were vented to atmosphere via rooftop vents; - easily visually identified by the square stand-offs on the centerlines of the car roofs. Frost Gas lighting was generally considered very safe since no pressurization or pressure regulation was involved, but rather fuel handling was only the gravity filling of generators from a very conventional gas can. It was also quite desirable since a single “charge” of fuel would last up to 100 hours of continuous use.

On the O&W the system was referred to as the “Frost Gas Dry Carburetor and Vapor System.” The several editions of the O&W “Supplemental Instructions” booklets contain instructions for lighting and extinguishing the carburetor lamps.

Oil Lamps: fueled with kerosene were an antecedent to other methods using a system(s) suite, such as Frost Gas and Pintsch Gas (following) – Part II. The kerosene lamps were individual fixtures with very little fuel capacity and endurance. Re-filling these lamps could be messy involving spillage then requiring cleaning. In the event of upset, spillage, the lighted wick oil lamps were indeed a fire hazard!

As a singular example. PC #92 and 63' PB No. 269, on July 25, 1941, were destroyed by fire when a Brakeman's lamp was left (illuminated), in the vestibule of one of the cars, and was tipped and upset, at Winterton, due to a “rough” start by the engineer of the train.



All the passengers were able to safely exit the cars, after which they then repaired and scampered to a hummock on the nearby Bonner Farm until a relief train could fetch them up to continue to Roscoe. The O&W never made any acknowledgement of the cause, but then simply (and inelegantly) scratched away the name and number of PC Neversink, No. 92 from company Diagram 22!

As with prior editions of "O&W Ramblings" . . . more later. . .

Mal Houck NMRA MMR #696