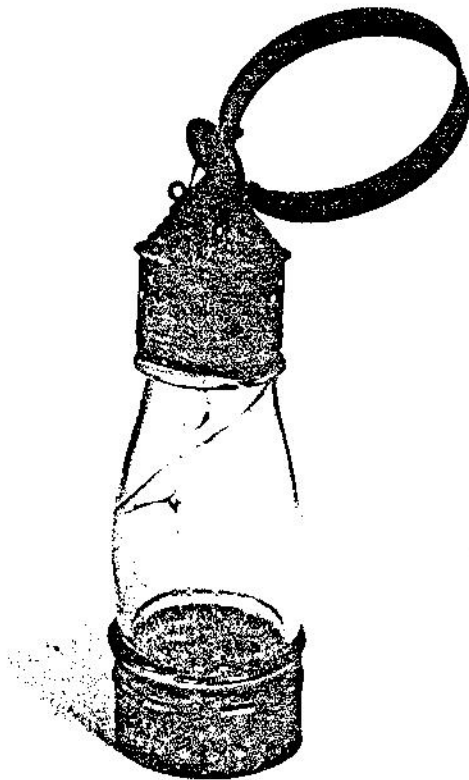


# THE DEVELOPMENT OF THE RAILROAD LANTERN

## FIXED GLOBE LANTERNS

Through the first four decades of the 1800s glass manufacturers concentrated on interior lighting, leaving outdoor portable lighting to the tinsmith. The lanterns of this period were, typically, perforated tin lanterns which used candles for illumination. Beginning around 1840, the Boston glass



*Figure 1.1 - The Concord Railroad was home to this early fixed globe lantern (SDS-9). The globe is cut "C.R.R." The manufacturer is unknown.*

*Collection of Richard Barrett*

manufacturers began to produce general purpose fixed globe lanterns. The design that evolved looked much like a fixed globe railroad lantern, except that the circular bracelet or bail was much smaller.

Fixed globe lanterns for railroad use evolved from the general purpose fixed globe lanterns of the period. According to the Association of American Railroads, the first night train was run by the Baltimore and Ohio Railroad on March 27, 1848. However, the "Boston Advertiser" in August, 1840 ran an article stating that "The Boston and Worcester Railroad Company are preparing a very bright head-light with powerful reflectors, to be placed in front of a locomotive, which is to run on that road after night." Other reports exist that the South Carolina Canal and Railroad Company experimented with platform cars covered with a bed of sand on which a fire was lit to provide illumination at night. Regardless, of which of these accounts represents the first night operation, it seems clear that the United States railroad industry quickly realized the benefit and necessity of night operation.

When night operation was in its infancy, the general purpose fixed globe lanterns were used by the railroads. However, as they developed experience in using lanterns, improvements began to be made. These included a larger bracelet (so that the user could place the lantern on his arm and have both hands free for use) and wire guards around the globe to reduce breakage. It also was

the beginning of a long line of technical improvements that made the lantern easier to maintain, more effective as a light source, and more durable in use. United States Patent Office records show patents for railroad lanterns beginning during the latter part of the 1840s. During this same period fixed globe lanterns began to be ordered with RR markings. Most of these early lanterns were marked on the globe only, but some fixed globe lanterns were made with the railroad markings stamped into the metal.

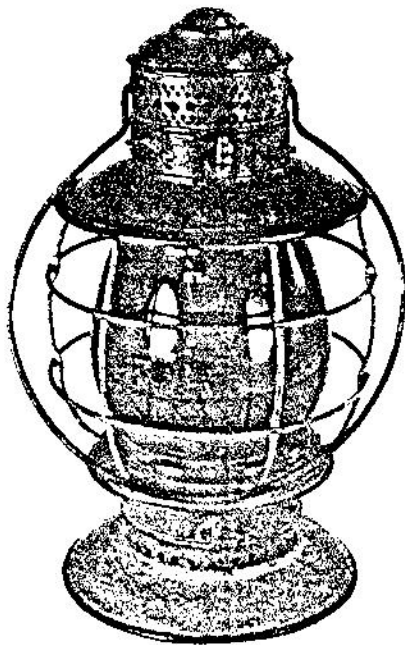
### REMOVABLE GLOBE LANTERNS

William Westlake patented the first removable globe lantern in the 1860s. Shortly thereafter, the

No. 39 globe (5-3/8") was developed for the use of signal oil in lanterns. The open bottom or wire bottom lantern was also invented in the 1860s, although bell bottom lanterns continued to be made until well after the turn of the century.

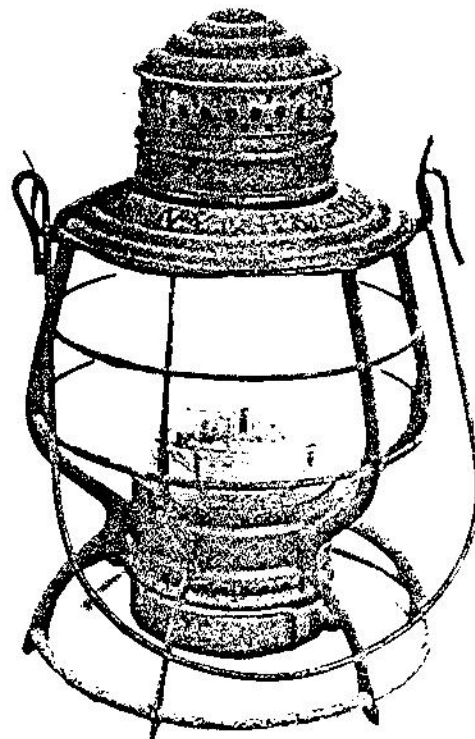
### 6" GLOBE LANTERNS

Lanterns using the six inch globe (Except the Dietz No. 6) were designed for burning whale oil or sperm oil. Because the metal manufacturing industry was still developing, the technology relating to the supply of air to the flame was embodied into the globe. This is the reason for the rolled edges on early globes.



*Figure 1.2 - The manufacturer of this six inch globe lantern (UNK-11) with barrel globe is unknown. The frame is marked "N.R.R." (Northern Railroad of New Hampshire). The globe is a 6" red cast barrel globe marked "N.R.R."*

*Collection of Richard Barrett*



*Figure 1.3 Adams and Westlake produced this "Adams" steel guard lantern (A&W-20) for the New York, New Haven and Hartford Railroad. The frame is marked "N.Y.N.H.&H.R.R.". The globe is clear cast and is marked "NYNH&HRR". The last patent date is September 21, 1897.*

*Collection of Richard Barrett*

### 5-3.8 INCH GLOBE LANTERNS

These lanterns were developed to utilize the No. 39 globe, a globe which was developed for the use of signal oil. The lanterns began appearing in the late 1860s.

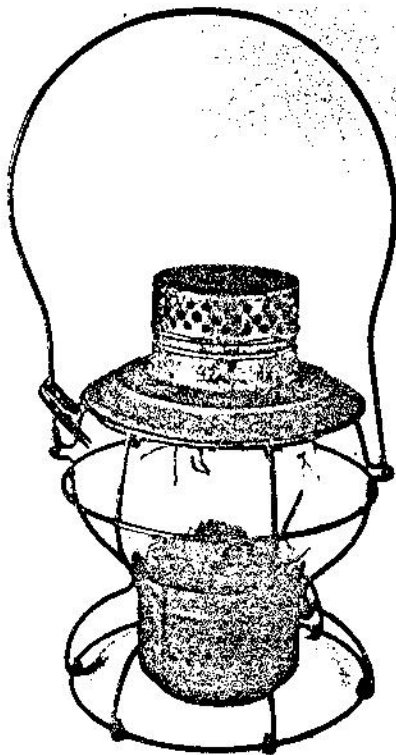
Signal oil rapidly became the preferred fuel, and whale oil/sperm oil lanterns quickly declined in popularity. However, some railroads near the east coast continued to use whale oil for a longer period of time because it was cheap and readily available there.

The 5-3.8" lantern did not become seriously challenged until World War I when the United

States government requested railroads to reduce their use of edible oils (Edible oils were a significant component of signal oil). This spurred the changeover to kerosene lanterns.

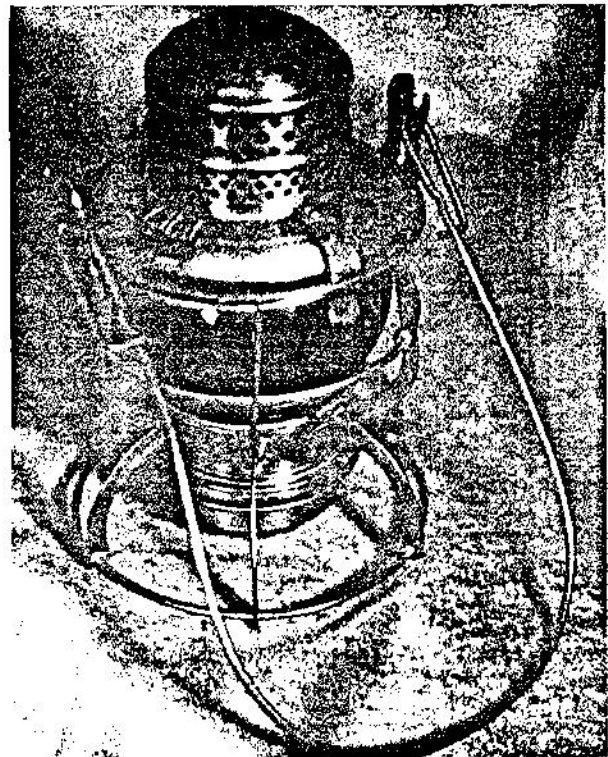
### SHORT GLOBE LANTERNS

The development of the "short globe" lantern was dependent on the introduction of heat-resistant glass. The smaller burning chamber, made possible by the use of heat-resistant glass, made kerosene a more viable fuel for hand lanterns as it allowed an optimum size burning chamber for kerosene.



*Figure 1.4 - The Handlan No. 345 4-1/2" globe lantern (HAN-30) was produced to compete with the 3-1/4" globe lanterns of other manufacturers. The frame is marked "I.C.S.". The unmarked globe is cast at the top "HANDLAN 6".*

*Collection of Richard Barrett*



*Figure 1.5 - The Armspear Manufacturing Company made this "1925" model 3-1/4" globe lantern (ARM-11) for the L.&WVRR". The globe is unmarked.*

*Collection of Dave Thompson*



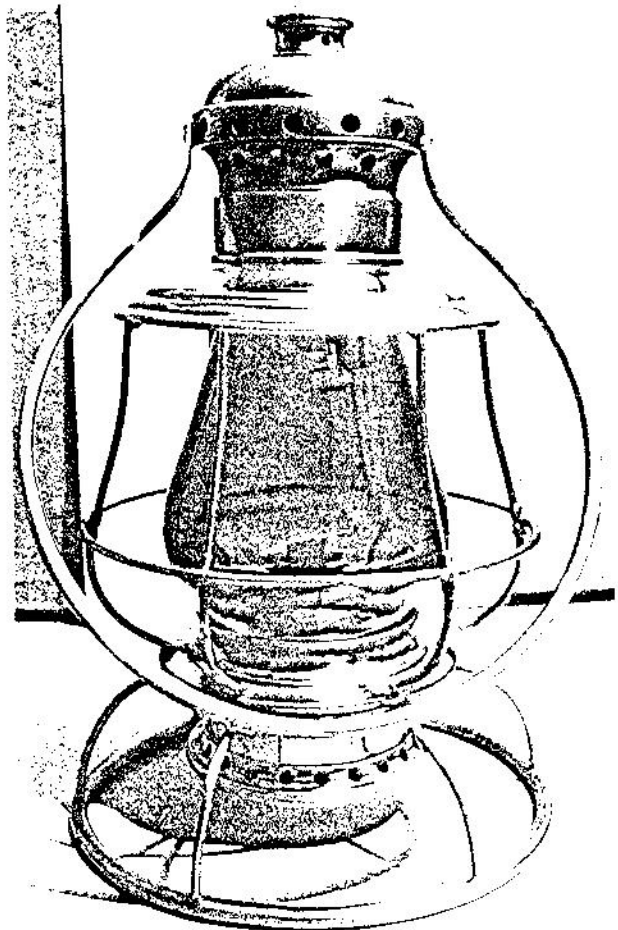
*Figure 1.6 - The Dietz "Vesta" lantern (DIE-16C) shown here is marked on the frame "D.L.&W.R.R.". The non-railroad marked Corning heat treated globe is cast "DIETZ (In oval) VESTA NEW-YORK USA".  
Collection of Richard Barrett*

#### 4-1/2" GLOBELANTERNS

This size globe was uniquely used for kerosene lanterns by Handlan. While taller than the 3-1/4" globe used by Handlan's competitors, the burning chamber was approximately the same size. This lantern was, undoubtedly, introduced in the 1920s.

#### 4-1/4" GLOBE LANTERNS

The 4-1/4" globe was originally used solely in Dietz Vesta lanterns. It was introduced in 1905. The "Vesta" lantern burned kerosene and was in design and performance a very significant departure from traditional railroad lanterns. In later years Dietz introduced a few other lantern models which utilized this globe



*Figure 1.7 - This Steam Gauge and Lantern Co. No. 8 conductor's lantern (STE-21) is typical of many conductor's lanterns. The frame is made of nickel plated brass and has an "open bottom" (Wire bottom). "Closed bottoms" (Bell bottoms) were more prevalent on conductor's lanterns. The globe is green over clear. While clear globes were the most prevalent, green over clear globes were also very popular.*

*Collection of Tom Stranko*

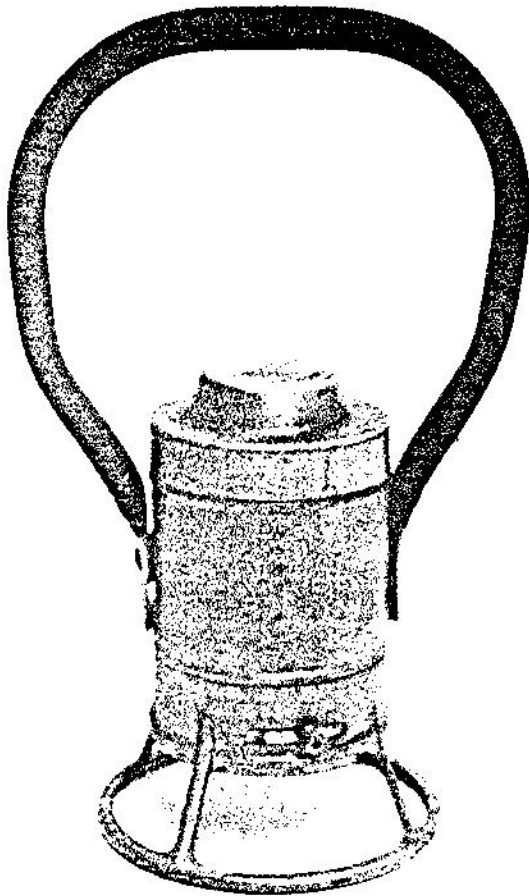
#### 3-1/4" GLOBELANTERNS

The 3-1/4" globe was developed for the use of kerosene in railroad lanterns. It was developed during the First World War period when the Federal Government requested the railroads to minimize their use of food stuffs (lard oil was a large

## CONDUCTOR'S LANTERNS

Conductors lanterns were essentially fancy versions of railroad lanterns. They recognized the authority and position of a conductor. They are also referred to by collectors as presentation lanterns, since many of those that have survived were presented to conductors in honor of a service anniversary, retirement, etc. Many of these lanterns were furnished with fancy globes containing the individual's name as well as other decoration. Two colored globes were also often used in these lanterns.

A 1917 Handlan catalog describes seven styles of conductors lanterns as being available. They were available in plain brass, nickel plated brass, silver plated, sterling silver or gold plated.



*Figure 1.8 - An Armspear battery powered lantern (ARM-15) is shown in this photo. The lantern has a metal housing and rubber covered bail.*

*Collection of Cal Bulman*

component of signal oil) for non-food purposes. Lantern manufacturers were also interested in developing the lantern to compete with the Dietz Vesta lantern which was becoming more and more popular during this period.

## BATTERY OPERATED LANTERNS

Battery operated lanterns for railroad use began appearing around 1918. Their initial use seems to have been primarily in areas where there was a substantial chance of fire and/or explosion. Their popularity began increasing after the depression. As the popularity of battery powered lanterns increased, the market for kerosene lanterns decreased. A wide variety of battery operated lanterns were available from the traditional lantern manufacturers and from other companies as well. Today, virtually all railroad lanterns in use in North America are battery powered.