

A TREATISE ON FIXED GLOBE LANTERN FASTENING TECHNIQUES USED IN EARLY LANTERNS

by Thomas Walsh

I specialize in collecting very early lanterns from the 1820 to 1870 period. Many of the lanterns of this period are of the fixed globe type. In my search for and collecting of, these lanterns, I have noticed many methods used in affixing the globes to the frames of such lanterns. I will attempt to list these methods and illustrate how they work.

The first method and by far the most common was to make the concave section in both the glass and the metal and to use a plaster to amalgamate the two into a single unit. This method is illustrated in figure 1., which represents half of the bottom part of a lantern in cross section. In Figure 1., "a." represents the bottom section of a globe, "b." represents the tin bottom and "c." is the plaster mix. As you can see, the plaster locks the concave section of both parts when

it becomes hard. Although the main function of the concave banded areas in the metal are to hold the globe, they also serve a decorative purpose as well. It is interesting to note, that after manufacturers phased out fixed globe lanterns, they retained these no longer functional bands anyway. I have noticed that the plaster used in the oldest lanterns has a coarser, almost cement-like, quality to it while in newer (1870s) lanterns the plaster seems to be finer and smoother. The use of "plastered in" globes seems to account for about 90% of the fixed globe lanterns I have seen with three other types making up the other 10% or so. Fig. 2 shows two variations in globe locking contours (Note: only the bottom of the globe cross section is shown). Fig. 3 shows a globe with dimples moulded into the extended base of

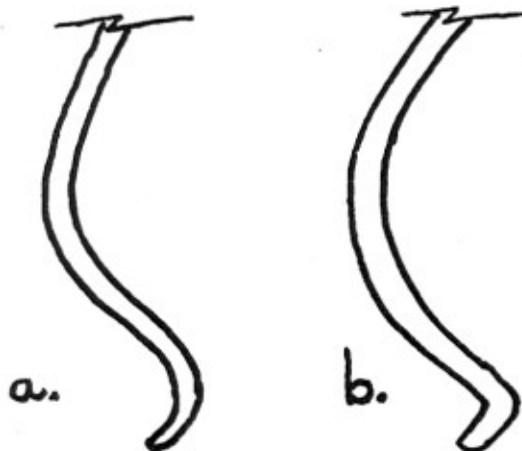
a globe. This type of globe is found in both fixed and removable globe lanterns and was probably a transition globe.

Another method of affixing a globe to a lantern is shown in Fig. 4. This method requires much precision in the manufacturing process and was rarely used. I have seen only two examples of this type. One is a green closed lantern with G.T.R. (Grand Trunk Ry.) cut into it. This lantern may have been made in Canada as it is unusual in other respects as well. In Fig. 4. "a." represents the globe. "b." is a glass bead applied after the freeblown globe was formed. "c." is the tin section of the bottom with a rolled bead to fit over the glass one and hold the bottom in place. The top of the lantern is affixed in the same manner. "d." is simply the bell.



Fig.1

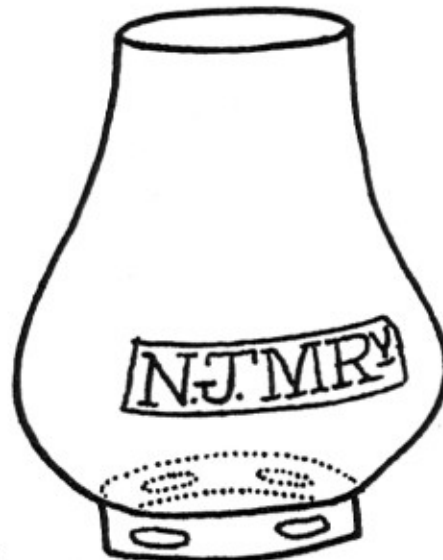
FIG. 2



New England Glass
Type Contour
(Free blown)

J.H. Kelly
Type Contour
(Free blown or
Mold blown.)

FIG.3



Mold blown, extended
base globe with lock-
ing dimples cast in
base.

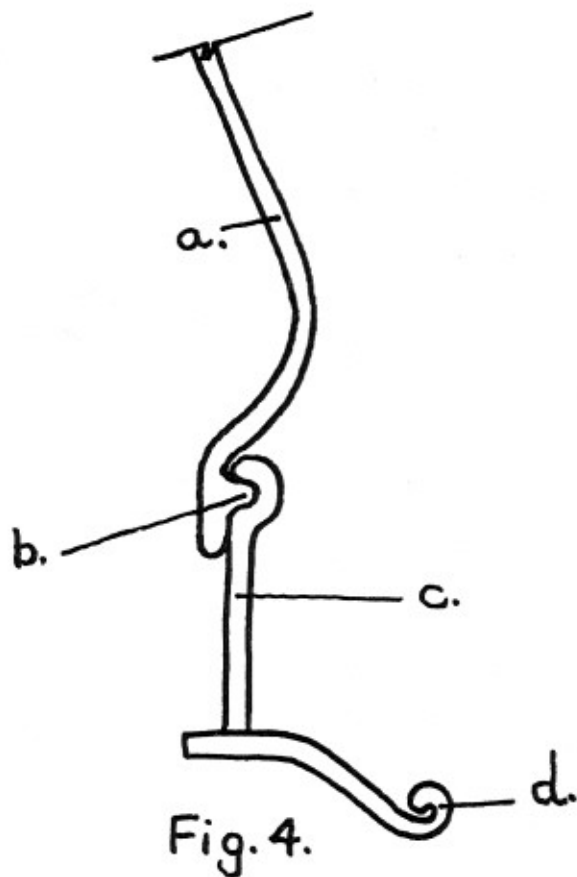


Fig. 4.

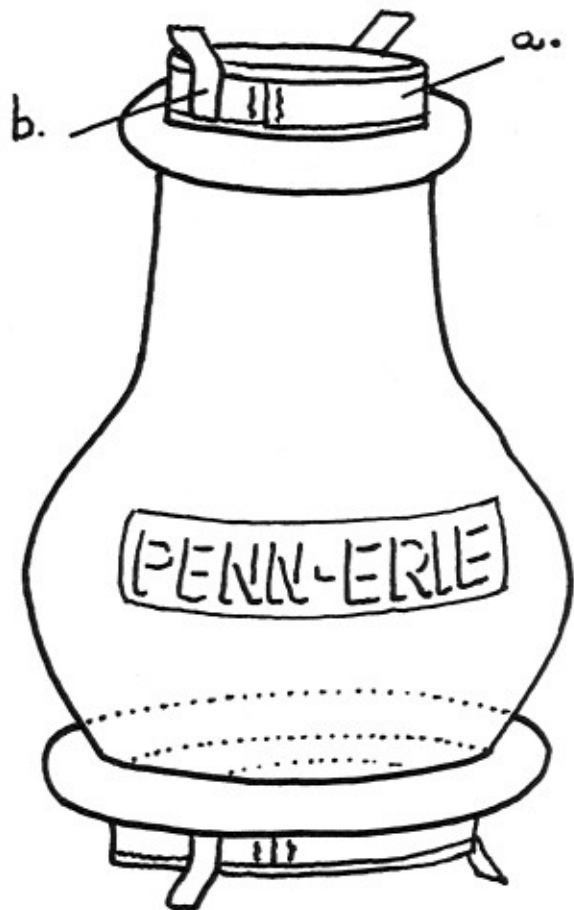


Fig. 5.

One of the most interesting pieces in my collection has yet another method of globe attachment. Shown in Fig. 5., it is a fairly simple method but requires some risk in the manufacturing process. Tin bands (a.) are soldered tightly around the extension lips of the globe. Tin tabs (b.) are then soldered to the bands. These tabs are then soldered to the metal frame. In reality there are three tabs at the top and three at the bottom. When the lantern is assembled you cannot see the bands and tabs from the outside of the lantern. The risk comes into play when the bands are soldered tight on the globe as heating of the glass in one localized area can cause a crack to occur.

In many fixed globe lanterns there was no cage or protective wire guards used. The addition of a

cage to protect the globe can be documented as early as 1850 and many have started even earlier. Whether or not a railroad used caged lanterns seems to be a matter of geography and lantern manufacturer, than of the time period it was made. It seems New England makers did not generally make caged lanterns until the late 1870s. During this same time period, lantern makers in New York State and the Chicago area made caged lanterns more often than their New England counterparts. Since most railroads purchased lanterns from local suppliers, New England railroad lanterns tend to be cageless more often than lanterns used elsewhere. By the 1880s almost all railroad lanterns had globe guards of some kind.

The use of only a globe cage to hold a fixed globe lantern together

is extremely rare. Most often when a lantern is found with only the wires holding the top and bottom together, the plaster has simply fallen out. A close inspection will usually uncover some evidence there was plaster used. By the 1880s fixed globe lanterns were much less used, and (except for some lanterns made for the Boston & Albany R.R.) the 1890s brought about the end to the fixed globe lantern.