

SAFETY LAMPS FOR READING SURVEYING INSTRUMENTS

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One of the difficulties of surveying underground that has not been addressed in previous MAC articles is how the surveyors read the graduations on the transit or compass.

Any lamp used for this purpose must be COMPLETELY non-magnetic (no iron wick picks, gauzes, or parts within the relighter mechanisms). Any lamp--safety, oil wick or even candle--that meets this criteria can be used but the shape of a safety lamp prevents its flame from being brought close to the transit verniers or compass graduations. The earliest attempt to improve on this was to add a movable lens (or lenses) to the side of the lamp close to the flame. Two lamps of this type are shown in Figures 1 and 2.

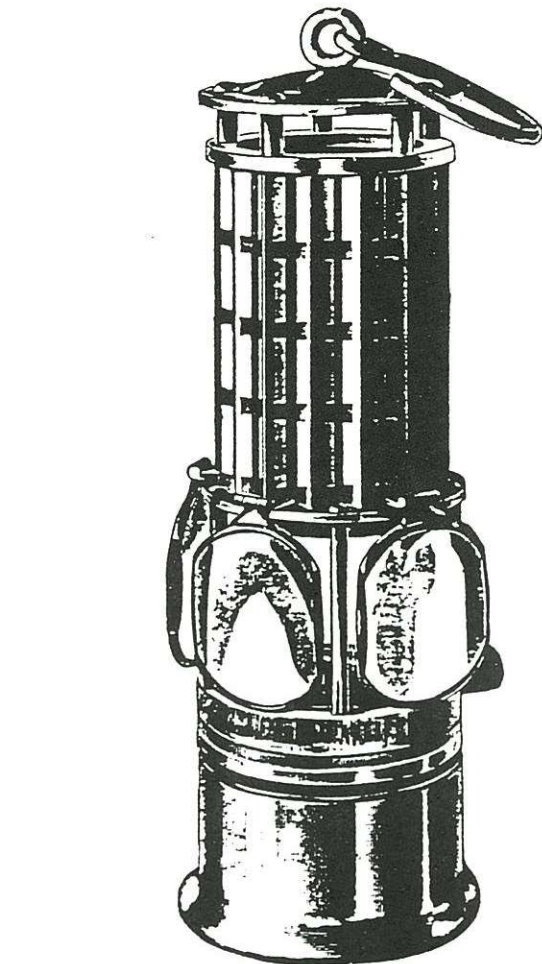
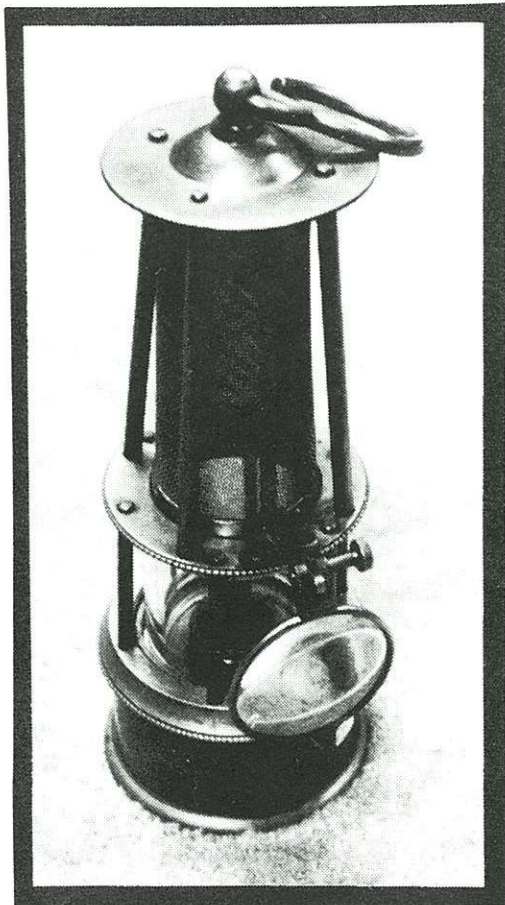


Figure 1. A Wolf surveying safety lamp from a 1914 Wolf Safety Lamp Company of America catalog. The catalog states that "All these lamps are made in brass and aluminum only, free from iron. When ordering, this however should be specially mentioned." The lamp was also available with one, two, or three movable lenses.

Figure 2. Unbonneted surveying safety lamp with movable lens. (Lester Bernstein collection)