

THE KOEHLER SAFETY LAMP

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By 1914 the patents for the Wolf safety lamp had expired. The Koehler Manufacturing Company of Malboro, Massachusetts, started production of safety lamps patterned after the Wolf lamp, although general improvements were claimed. An updated version of the lamp is still in production today. Examples of both the original and the latest version are shown in Figure 1, and cross-sections of both versions are shown in Figures 2 and 3.

Several versions of the lamp were offered in 1914,¹ including: (1) steel with either a screw or magnetic lock, and both bonnetted and unbonnetted versions; and (2) model No. 7 which was some 2 inches taller than the standard model and with a glass 1 inch taller. It was designed for use in ship holds, coal bunkers and oil refineries.

A Koehler catalog dated November 1916 lists three basic models (Nos. 1, 2 and 4) with either paraffin (friction) or pyro igniters; in steel, brass or aluminum; key locks or magnetic locks; and finally, with and without a bonnet. With all the permutations and combinations, a total of 18 different varieties were available! Model No. 3 was not mentioned and evidently Model No. 7 was no longer available. The catalog also listed parts and tool kits for Wolf lamps!

The United States Bureau of Mines (USBM) was established in 1910 and studied flame safety lamps as part of its prime responsibility to increased safety in mining. In 1915 the Bureau issued its first schedule (Schedule 7) on safety lamp testing. The first lamp approved under this schedule was a Koehler bonnetted steel lamp with two gauzes and a flat wick on August 15, 1915. This was followed in 1918 with the second approval for the same style lamp but with a round wick. In 1919 Koehler obtained approval for two aluminum lamps, one with a flat wick and the

¹Coal Age, February 14, 1914.

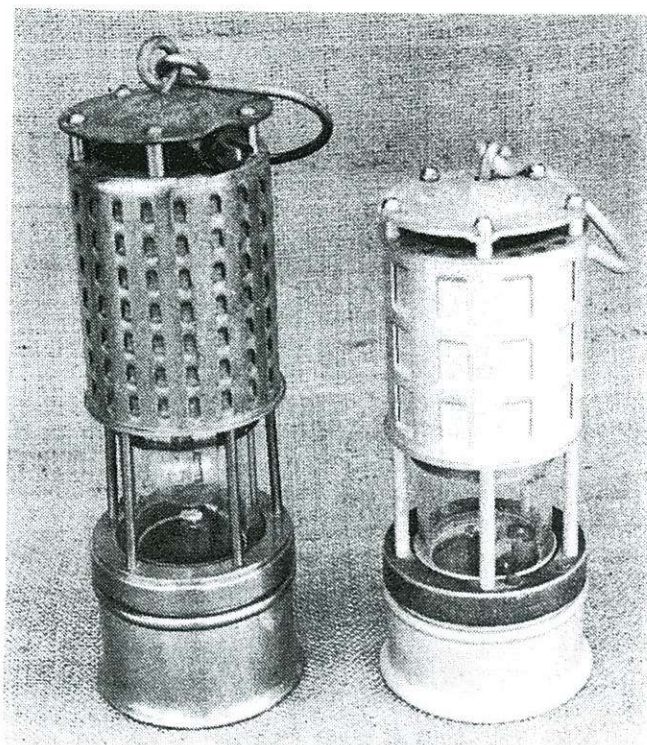


Figure 1. Original steel Koehler lamp (left); this example is marked with a Fox Studios property number and has been modified for electricity (note bulb and plug). It is said to have been used in the movie "How Green Was My Valley." At right is an example of the latest all-aluminum Koehler lamp. (Both in author's collection)

other with a round wick. The four approved lamps all had magnetic locks and differed only in the size and shape of the wicks and in the materials of construction. The approval stamp was placed on the hood above the bonnet and shows the USBM seal and approval number. The same lamps were manufactured with a key lock, and a brass lamp with a key lock was also available.

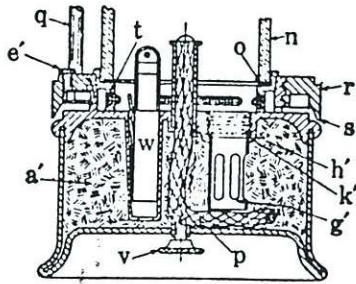
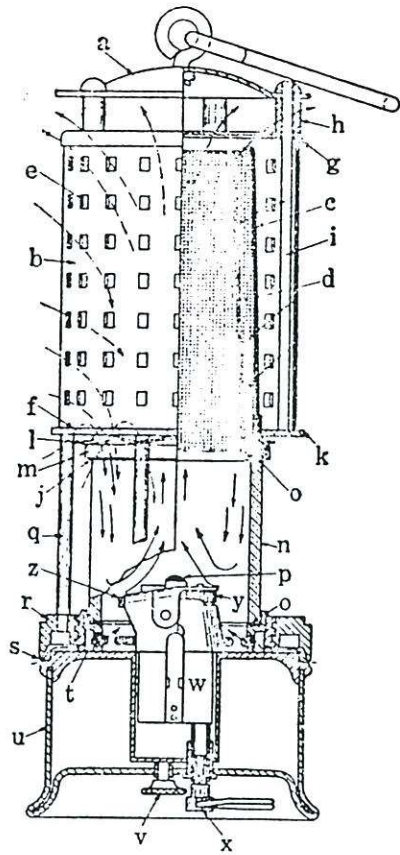


Figure 2. Cross-section of an early Koehler lamp.

In the 1950's Koehler redesigned the lamp, making it approximately 2 inches shorter. It was available in either aluminum or brass. The aluminum version was approved by the USBM and had a magnetic lock. The brass version had a key lock. The safety function of

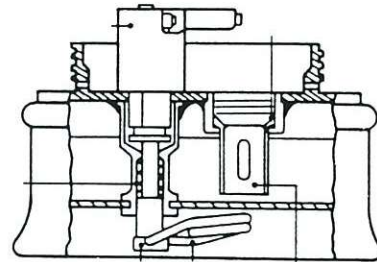
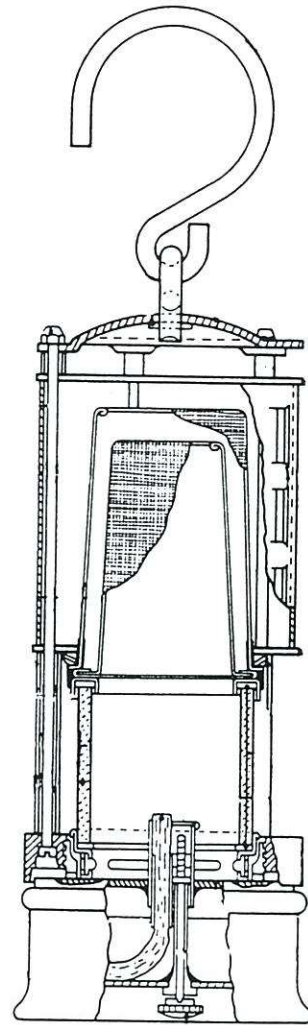


Figure 3. Cross-section of a modern Koehler lamp.

the USBM was transferred to MESA and then to MSHA. The current versions of the lamp are being manufactured by the National Mine Service Company and are approved by MSHA. They are manufactured in aluminum and brass and both have magnetic locks.