

The Hailwood Lamp

by Tony Moon

Lamps from only three manufacturers were granted approval by the United States Bureau of Mines for their designs of permissible safety lamps. Two are very well known: Koehler and Wolf. The third is relatively obscure - Ackroyd and Best of Pittsburg, PA. Ackroyd and Best received approval on January 8, 1917 for their Hailwood lamp.

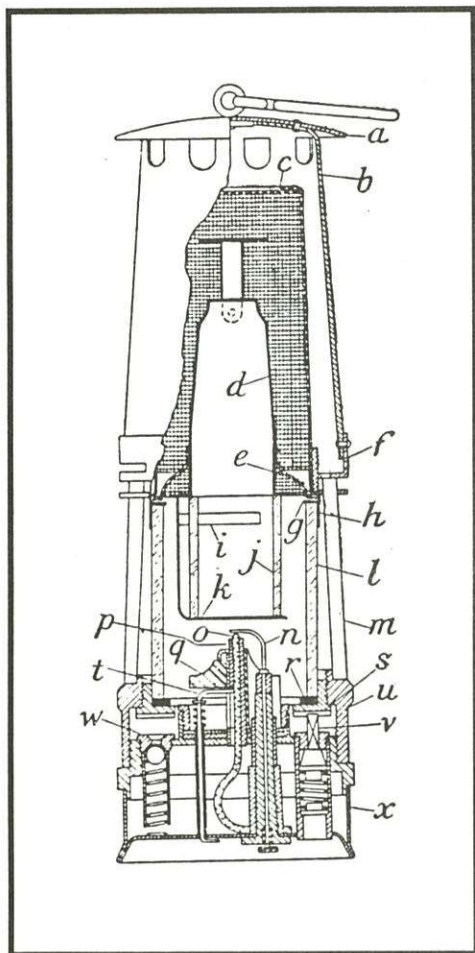


Figure 1
Hailwood Lamp, cross section

The Hailwood lamp is essentially a bonneted Muesler lamp (single gauze with internal chimney) with a glass extension to the bottom of the chimney. This type of lamp is known as a combustion tube lamp. An excellent cross-sectional drawing* plus a photograph of an unusual example of the lamp, cut-away for training purposes and showing the lamp internals, are shown in Figures 1 and 2. In addition to the glass extension, the lamp had other interesting features - a porcelain burner, a vertical magnetic lock, and a means of relighting the lamp that could only be accomplished in a large explosion-proof enclosure. The enclosures were expensive and only relatively few could be strategically located throughout a mine.



Figure 2
Hailwood Lamp, cutaway version for training purposes

A somewhat bizarre model of the lamp was produced in the 1920's presumably in an effort to produce more candlepower and compete with the illuminating power of an electric lamp. A condensed excerpt from a contemporary book on mine lighting** provides a detailed description. "A new duplex form of flame lamp has recently (1928) been constructed by Mr. E.A. Hailwood, in which it is claimed each flame gives 4 to 5 maximum horizontal candlepower. The general appearance is similar to that of two ordinary flame-safety lamps fitted together side by side, with a common handle at the top. Instead of two circular oil vessels, however, there is a large rectangular oil vessel divided vertically into two, one for each wick. Each wick is flat and large, and is adjusted by a spindle and toothed wheel as in an ordinary (household) paraffin lamp. There are two cylindrical lamp gauzes. These in turn are guarded by bonnets in the usual



Figure 3
Hailwood Twin safety lamp



Figure 4
*Hailwood lamp plate with Pittsburgh address.
Lamp was probably made in England.*

way. The whole apparatus is clamped together by a rod passing down between the two lamps, the upper part of the rod operating a ratchet ring provided with a magnetic lock." A slightly different, and presumably earlier, version of this lamp from the author's collection is shown in Figure 3. This lamp has the wording "Hailwood's twins" stamped on the two bases.

In spite of its faults, the lamp was popular in Great Britain and the standard versions can be found without much difficulty in local antique shops and street markets. The version with the Pennsylvania address on the nameplate, as shown in Figure 4, is quite rare. The author has never seen a Hailwood lamp with the USBM approval stamp although one is illustrated in USBM Bulletin No 227. If any reader has seen a lamp outside of the USBM collection that has the stamp, please let me know.

* Figure 10 from USBM Bulletin 227 "Flame Safety Lamps" by J. W. Paul, L. C. Ilsley and E. J. Gleim, 1924.

** Mine Lighting by J. W. Whitaker, London, 1928