A tentative chronology of the Premier carbide cap lamp.

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It is common knowledge among collectors that there are many variants of the Premier cap lamp, but I have not seen any published attempt at dating or cataloguing them. We know that this lamp was produced at the works of the Premier Lamp and Engineering Company in Leeds, which was closed in 1984. I do not know when it was first produced.

It must have been a development of the "Colibri" lamp offered by Wolf Safety Lamp Co. Ltd (Leeds) in their 1911 catalogue. This company was formed after the liquidation of the Wolf Safety Lamp Co.(Leeds) (managed and previously owned by Richard Cremer) and was very soon transferred to Wm Maurice and moved to Sheffield. The same Colibri appeared in the catalogue of the Cremer Lamp and Engineering Co (Leeds) which was also formed (by Cremer) after the liquidation of Wolf (Leeds). The Cremer company was renamed "Premier" after Cremer left following the outbreak of World War 1, so this catalogue must have been issued between 1912 and 1918. The Colibri was listed as "No 85" in the above catalogues, and this number is retained in the Premier listings until the 1970's.

There seem to be very few catalogues or trade advertisements in Britain for the ensuing period but I know that there will be some in the custody of collectors. There was a Premier one issued in 1937, but I do not have the relevant pages. I hope that publication of this article will stimulate others to bring out their information and fill in the gaps.

Production of the lamp, using tools from the original works, was continued in 1986 by the Buxton, England firm of Caving Supplies, who have continued to supply this lamp. This gives me a hook on which to hang one end of the series.

I have made a reasoned guess at the other end of the series, the early lamp. This has depended largely on the identification of a primitive feature and its association with other body features, which then appear to have evolved.

I have collated the obvious variable features of the lamps in my collection and also analysed the same features, where evident, in lamps described on the internet, mostly either in auction sites or in Facebook groups. For the purpose of deriving a chronological sequence, I give the most weight to those parts which would require significant re-tooling to alter. The body of the upper chamber (the water tank) would be the most important in this regard. The top of the water tank was soldered or crimped (or both) in place after assembly of the water feed, and could be modified independently, as could the water feed system. The lower carbide vessel was always interchangeable, and indeed often carried by users as a lidded spare, with a charge of carbide.

On this basis I have sorted the lamps into seven main groups, with minor variants within some of the groups. A primary characteristic is the shape of the skirt (flange) of the water tank, which seats on the rubber gasket to make a seal with the carbide vessel below, but I have used other features to create some groups.

Features of the top of the water tank used for classification include:

The indexing ridges for the water feed lever.

The water door. Round or oval.

The water feed mechanism. Normal dropper feed or an unusual coil feed (see below).

Other features which are more readily altered include the hook for attachment to the cap (wire or spade in several shapes) and the cap brace, where present (wire or a strip of brass).

I have not used the reflector type in this classification. Reflectors were readily changed, and variants seem at first sight to pop up randomly. But the way in which the retaining wing nut was made appears to be a usefully constant feature.

The main variation of the carbide vessel is in the style of the grip, probably raised after the initial pressing of the shape. This is either an octagonal band or a set of three ridges. These ridges can be smooth or cross-banded (knurled). On the base of the carbide chamber there is often a circle of stamped lettering, “PREMIER LAMP & ENG. CO LTD LEEDS ENG”. The diameter of this circle can be larger or smaller. I speculate that the smaller circle might have

been introduced to allow it to be seen through the hole in the rubber bumper grip, a later development in carbide cap lamps generally.

Although these more volatile features are less useful in establishing the pattern of evolution of the lamp, some of them do show fairly consistent changes associated with the sequence of types.

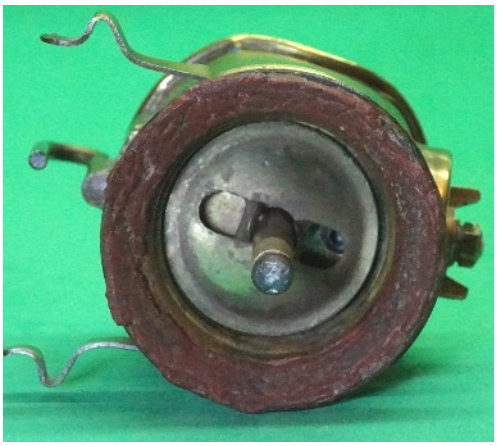
I propose the following main groupings of Premier cap lamp patterns. I have named and listed them in the order of the production sequence which I suggest later.

Type A

14 ridges ("clicks") for detention of the water lever. Downward-sloped skirt, turned up at the edge.

I have only seen one example of this type, which is in my possession. All other Premier cap lamps have 18 clicks, more prominent.

The distinguishing feature is that the index ridges for the water feed lever are much more slender and weak, and more widely spaced, than in all other lamps of this series. There is an oval water door and an octagonal grip on the carbide vessel. A wire hook with flat strip cap brace. The water lever is a straight rod with a knob at the end, similar to all but the earliestAmerican Autolites [1]. The felt filter pad retainer has two tabs cut out and raised to grasp the stem of the water feed, so as to leave 2 holes. The name stamping on the bottom of the carbide vessel is a wide circle.


Type B

18 prominent clicks; Downward-sloped skirt, turned up at the edge.

The upturned edge is sometimes made neater to form a beaded edge; always an oval water door, and generally an octagonal grip on the carbide vessel. The water lever is a straight rod with a knob at the end, like Type A.

I consider this type to be a development of Type A, differing only in the improvement of the unsatisfactory index ridges on the top.



Type C

Skirt markedly sloped, with a downturned edge with gaps at rear for a wire brace which, when present, would be partly enclosed under the downturned edge. Hexagonal water lever boss with usually a limit post close to the "on" position. Water feed stem enclosed in a spiral coil.

The water lever is often a complex construction (but often damaged), based on a short wire lever curled under, with a strengthening clip and a protruding bronze slider to engage the clicks. This is very vulnerable to damage. Perhaps the limit post was designed to partly overcome this (but failed). I have one example without the limit post for the water lever. Sometimes the water lever is a wire curled under like later types.

The coil enclosing the water feed stem is similar to the later version of the "Float Feed" of Dewar ITP lamps, patented in 1924 [2]. This device was also used for ITP cap lamps, and looked very like the Premier one.

Round water door. Filter retainer a disc with 4 holes. The cap hook is usually a wire, but can be of flat sheet brass. Often no cap braces, but wire if present. Carbide chamber grip usually octagonal. Usually a wide circle of stamped letters underneath the base.

I was alerted to this design by a posting by Steve McCabe in the Eureka group of Facebook [3]. I subsequently found that I possessed several of them, and I soon acquired more. This pattern is uncommon but not rare in England.

Type D

Flat (horizontal) skirt, downturned edge with gaps at rear for a wire brace.

The downturned edge also partly encloses the gasket, especially if the wire cap brace is not fitted, as is often the case.

Round water door. Usually a wire cap hook. The filter felt is held captive by 4 lugs below the retainer disk, which has a wide flange which engages with the threads of the tank, holding it in place. The water lever is usually a wire, curled under to engage with the index ridges. Sometimes it is a bent, flattened rod, with no knob.

The carbide container has three ridges, two of which are knurled. The circle of letters stamped under the carbide vessel is smaller than in the last 3 groups.

Supplied usually (but see below) in a red and white box with a black figure of a type D lamp with wire hook and cap braces.

Type E

Skirt flat, downturned edge without gaps at rear for a wire brace.

Round water door. Spade cap hook. The carbide container has three ridges, two of which are knurled. Narrow circle of stamped letters. Filter felt retainer captive type, as Type D

I do not possess an example of this type, but have seen several offered on the internet. Differs from Type D only in the lack of gaps for a wire cap brace. Those gaps were probably cut after pressing, so perhaps it should be considered a minor variant of Type D.

Type F

Skirt slightly sloped, downturned edge without gaps at rear for a wire brace.

The retaining wingnut for the reflector is made from a bent piece of sheet brass, contrasted with an apparently cast wingnut for all of the earlier patterns. The hook at the rear is flat, with a detent punched through for security. Felt retainer is a butterfly shape.

The carbide container has three ridges, but these are smooth and not knurled as in the above group.

I do not possess an example of this type, but have seen several offered on the internet.

Type G

Waist not double-skinned, so that the threads are visible. Skirt slightly sloped, downturned edge without gaps at rear for a wire brace**.**

The retaining wingnut for the reflector is made from a bent piece of sheet brass, contrasted with an apparently cast wingnut for all except Type E. Felt retainer is a butterfly shape. The hook at the rear is flat (Type G1), with a detent punched through for security. Later a longer hook, cranked and the lower part bent inwards, was fitted. I have called this Type G2. This crank tilted the lamp slightly downwards in use. .

The carbide container has three ridges, but these are smooth and not knurled.

Type G1 and sometimes G2 supplied in a blue box with a different image of a G1 lamp, and with the words “The Premier Lamp and Engineering Co. Ltd./PLECO WORKS/BARRAS GARTH ROAD/LEEDS 12 – ENGLAND". Type G2 was later sold in a blue box with “Buxton, England“ on the bottom, and a redrawn illustration of a Type G2 lamp on the side.

Type G2.

Photo: Phil Brown, Caving Supplies

Type G2, later top.

Photo: Phil Brown ,Caving Supplies

Proposed chronology

Type A is considered primitive and transient. The weak index ridges seem to me to be a primitive feature, and not very satisfactory in function. Its rarity would be consistent with this interpretation. Several American lamps began with no index ridges, and progressed through small, widely spaced ones to prominent, closely spaced ridges [4].

Type B is very similar to Group A apart from the lid of the water tank. It would be a logical progression from the redesign of the small clicks. This type is illustrated (as No.85) in a Premier catalogue of 1940 [5] and therefore presumably was introduced on or prior to this date.

Type C is a radical deviation from usual water feed design, but the rolled down edge of the skirt would require only minimal redesign of the shaping of the water tank body from the foregoing pattern, with perhaps no retooling. The octagonal carbide vessel seems to have been retained.

Type D is very similar to Type C, but reverts to the more normal drip feed. The octagonal carbide chamber seems to have been abandoned. All these lamps have a carbide vessel with 3 ridges, 2 of which are knurled. This remains the standard until the end, except for the loss of the knurling at about the time when Caving Supplies took over production (see below). The circle of letters stamped under the carbide vessel is now smaller, perhaps so as to allow it to be seen better through the hole in the rubber bumper grip which became popular later in the development of carbide cap lamps. I have a Type D lamp, almost unfired, which came in a box which carried an illustration of a Type C lamp. This supports my belief that Type D followed Type C.

Type E**:** This was advertised as No.85 in an undated leaflet by Premier which must be post-1970 because it contains a modern UK postcode. (Leaflet courtesy John Hine).

Types F and G are identical except for the retention of the double-skinned waist in Type F, which is lost on Type G. Both types now usually have a flimsier reflector nut made from a bent strip of brass, with smooth rings on the carbide vessel and usually no lettering underneath. I have been told that the cranked hook of Type G2 was also before 1986 [6]. From about 1986, Type G2 was made principally for caving and other leisure activities by Caving Supplies of Buxton, using tools acquired at the closure of the Premier works in Leeds. Some of the later lamps had a top stamped with “BUXTON ENGLAND” instead of BRITISH MADE” [6] although I have never seen one of these on a lamp. Many were exported to Nigeria and Ghana for use by hunters [6].

As with all such series, there will undoubtedly have been transitional lamps with some features from successive types, as stocks of parts would be used up.

The above sequence of production of the different patterns is deficient in dates. I know that there are collectors out there who have catalogues and advertisements which might supplement or contradict my proposed sequence. If so, I hope they will come forward with the information.

References

1. Thorpe, D. “Carbide Light: The Last Flame in American Mines” p79. Bergamot. (2006).
2. Thorpe, D. “Carbide Light: The Last Flame in American Mines” p51. Bergamot (2006).
3. McCabe S. Eureka Group, Facebook 17 Jan 2022.
4. Thorpe, D. “Carbide Light: The Last Flame in American Mines”. Bergamot. pp79-80; 91-92; 97; 184. (2006).
5. Corbridge M. Eureka 29 p 27 (1999).
6. Personal communications, Phil Brown ,Caving Supplies, Buxton, England.