Battery Insulators, Oil Insulators, and Chloride Accumulators

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From the first time that a cell or battery was used to supply electricity ... a way was needed to prevent or reduce the leakage of electric current. This leakage occurred when over the surface of the cell or battery (and the support that it was placed on) became coated with a fine deposit of acid-laden moisture and dust.

It was found that electric leakage was reduced if each cell or battery (a series of cells) was isolated from the support on which it sat.

Wood framing was used, but it was discovered that, over time, the wood would absorb the acid-laden moisture and created a direct path for electrical leakage, and eventually the acid moisture would cause the wood to rot.

Battery Insulators were used with DC electric systems as low as 1-2 volts and up to 600 volts and greater.

Lower DC voltage was used for a short time with telegraphs, alarms, and railroad signals. Higher voltage was used for lighting, motors, pumps, etc.

Originally, plain glass battery insulators were placed between wooden stringers and the battery tank. This proved to be *insufficient* ... so, glass insulators were added between the wood stringers and the floor. This combination became known as "Double Insulation." However, this did not prevent the decay of the wooden stringers ... so the Electric Storage Battery Company (E.S.B. Co.) designed and developed the combination of an oil insulator and an earthenware pedestal that solved the problem of the wood decaying. This earthenware pedestal / oil insulator became the standard for the industry and made it possible to finally do away with the wooden stringers.

A COMPLETE Pedestal/Oil Insulator UNIT is pictured below ... consisting of the cupped lead washer – alloy cap – Y lead washer – oil insulator – and the insulator pedestal. You can now see how the insulator and the pedestal look together. The patent for this invention was granted to Cornelius Ambruster of Roslywn, Pennsylvania, on July 13, 1915.

The oil insulator / earthenware pedestal was used to support a battery tank that was constructed of wood and lined with lead. The exterior was coated with asphaltum. Four to six CD-35s or CD-36s were used to support this style of Battery Tank.

Please notice the base of the pedestal ... The uneven design at the base of the pedestal allowed water and foreign material to pass under the support when flushing the Battery Room Floor.

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BIRDFEEDERS

The nickname "Birdfeeder" was given to the CD-35 and CD-36 around 1969. The collectors at that time thought they resembled a bird feeder. These battery insulators were very unique because they used a non-conductive oil that was put in the circular trough and was then covered by a lead-alloy cap. The purpose of the cap was to exclude, as far as possible, all spray or other foreign matter from getting into the oil space and to protect it from being splashed when flushing the Battery Room Floor.

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GLASS TRAY

Battery Jars that *were not sealed* were set on separate glass trays or boxes filled with sand. This was necessary due to the absence of a sealed cover which allowed acid-laden moisture to run down the outside of the jar and attack the wooden support (susceptible to rot) that the battery sat on.

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GLASS THREAD SCREW BATTERY INSULATORS

This type of Battery Insulator has a very fragile Male Glass Thread Screw. It is believed that the thread was used to secure the insulator in the wooden stringers that supported the battery so that the insulator and support could be moved as a unit.

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CHLORIDE ACCUMLATORS

The term Chloride Accumulator is a trade name of a storage battery that was manufactured in the 1800s by the E.S.B. Co. of Philadelphia, Pennsylvania. Some of the battery insulators that were used by the E.S.B. Co. were actually embossed with the name of "Chloride Accumulator" on them.

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UNITED KINGDOM BATTERY INSULATORS

British Battery Insulators are different from Battery Insulators that were made in the United States.

The British Battery Insulators are in two parts ... a Base Unit and a Top. The smaller size bases have a round bump in the center that matches a depression in the top's center to locate and secure the two-pieces together.

Four two-part styles are known at this writing. Until a year ago, the only colors known to exist in the two-part battery insulators were light green and light aqua.

Just recently the bottom half of a "CLEAR" two-part battery insulator has been discovered.

The only known light green "unipart" in the U.S.-style has a solid center instead of hollow center and has a corrugated base.

The style numbers and letters of the United Kingdom battery insulators were assigned by Ian Mackey. (These are not "officially" recognized numbers by the insulator-collecting community at this time.)

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COLORS FOR BATTERY INSULATORS

COLORS of Battery Insulators range from various shades of:

• Aqua to Green • Clear •
• Smoke •
• Lavender • 7-up Green •
• Emerald Green •
• Yellow-Green • Cobalt Blue •
• Blue • Amber •

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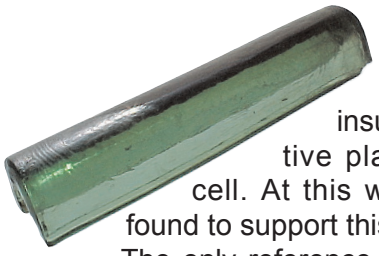
WHAT ARE GLASS BATTERY PLATE SPACERS?



It is *believed* that the "U" Shaped Glass Bars were part of a failed attempt to insulate the positive and negative plates from each other in a cell. At this writing, no proof has been found to support this theory.

The only reference found was to "Rods" being used in a patent issued to Stanley C.C. Currie of Philadelphia, PA, October 14, 1890, #438,532 ... "Insulated from one another by means of rods."

"Plate Spacers" have been found in various shades of aqua, blue, and green.

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MANUFACTURERS

Some of the manufacturers known to have produced Battery (Rests) Insulators are: Brookfield Glass Company, Old Bridge, New Jersey; The Elmer Glass Co., Elmer, New Jersey; Hemingray Glass Co., Muncie, Indiana. Dumps that were used by these companies have been excavated by collectors. Battery Insulators, shards of, and warming pours of battery insulators were found at some of the manufacturer's dumps.

The following is a list of Battery Insulators (or pieces of such) that have been found in some of the manufacturer's dumps.

Brookfield Dump – Old Bridge, New Jersey

CD-20 Gould CD-29 No Embossing
CD-53 U.S.L.

Hemingray Dump – Muncie, Indiana

CD-24 U.S. Light & Heating Co.
CD-24 National Battery Co.
CD-33 No Embossing

Elmer Glass Co. Dump – Elmer, New Jersey

CD-35 No Embossing CD-36 E.S.B. Co.

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EARLIEST PATENT DATE

The earliest known patent date for a Glass Battery Insulator is July 12, 1870. The patent number was 105,252 and was granted to Orris W. Robertson of Milwaukee, Wisconsin.

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E.S.B. CO.

The Electric Storage Battery Co. (E.S.B.Co.) of Philadelphia, Pennsylvania, was founded in 1888 by W. W. Gibbs, and by 1908 they were using glass for their battery (rests) insulators.

This information is supported by copies of various patents' documentation.

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GOULD

Gould Storage Battery Co. was founded in 1898 by Charles Gould of New York, and they applied for their first patent for a Battery Insulator in 1913.

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U.S.L.

In 1898 the National Battery Company was formed. Electric Autolite later gained control of National Battery Company and operated it under the name of U.S.L. Battery Company.

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NO WRITTEN HISTORY

The collecting of "Battery (Rests) Insulators" is a specialty within the hobby of Insulator Collecting. Although we are learning more about how the Battery Insulators were used and who made them, the history of the Battery Insulators has yet to be written. We need more written documentation.

At this time there are still unlisted colors and styles just waiting to be discovered.

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AS COLLECTORS OUR GOAL ... *We hope that by reading this information you will become more aware of the different styles (CD numbers) and the range of colors ... as well as some basic history of the Battery Insulators, Oil Insulators, and Chloride Accumulators.*

CHARLES AND SANDI IRONS - 2005

SOURCES:

History & Guide to North American Insulators, ...John and Carol McDougald

Gould Electronics Inc. .....Judy Kokal

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Patent Information.....Glenn Drummond

American/British Battery Rest Gallery website .....Ian Mackey

Patent Information.....Elton Gish

Storage Batteries.....E. W. Allen

NIA (National Insulator Association).....web site

Research.Smithsonian Institute, Washington, D.C.

ICON .....Bill Meiers

Hemingray Dump Info .....Darin Cochran

Hemingray Dump Info.....Bob Stahr

Brookfield Dump Info .....David Sztramski

THANK YOU for showing an interest in this Speciality Category (Battery Rest Insulators, Oil Insulators, and Chloride Accumulators) within the hobby of Insulator Collecting. If you have any additional information on this Specialty Category, please contact me. I will try to keep you posted on any new information that we might obtain as the research continues.

Charlie Irons