

CONTRIBUTIONS From CALIFORNIA

Several California firms were involved in the manufacture and distribution of insulators for a period that spanned the years 1871 to 1940. The earliest companies were primarily supply houses for telegraph and electrical equipment and were involved in the construction of both electric and telegraph lines. Unique to early line construction were the square redwood poles and several styles of insulators which were used only by the California companies.

CONSTRUCTION AND SUPPLY HOUSES

**Electrical Construction and
Maintenance Co.**

*Electrical Construction & Maintenance Co.
Telegraphic and Electrical Engineers,
Manufacturers and Contractors.*

The Electrical Construction and Maintenance Company was organized on December 23, 1870, and the incorporation certificate was filed with the county clerk of San Francisco, California, on December 28, 1870. George S. Ladd served as its superintendent. Company invoices

Telegraph Instruments,
WIRE, INSULATORS, POLES,
BATTERIES, &C.
Submarine Cables,
Blasting Machines,
Electric Fuses and Wires,
ELECTRIC BELLS, BURGALAR ALARMS,
Hotel Annunciators.
Models, Experimental Apparatus,
Grinding, etc. done to order.
Eaton & Edwards, Stationers.

Terms, Cash in U. S. Gold Coin.

San Francisco, March 19 1875
McWhorter & Minnick
Bought of THE ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.
MANUFACTURERS AND IMPORTERS OF
Telegraph and Electrical Apparatus and Supplies,
Contractors for Constructing and Maintaining
TELEGRAPH LINES, FIRE-ALARMS AND PRIVATE LINES,
No. 134 Sutter Street, bet. Montgomery and Kearny.

WANTED,
Telegraph Instrument Makers.

—

SEVERAL FIRST-CLASS WORKMEN can obtain permanent employment upon arrival

IN SAN FRANCISCO.

Pleasant and convenient factory rooms—nine hours' work per day. Good wages, payable in gold, and plenty of "piece" or contract work, at good prices.

None but temperate, industrious, and skillful workmen, who have had experience in the best Eastern factories, need apply.
Address, by mail,

Electrical Construction & Maintenance Co.,
No. 134 Sutter St., San Francisco.

(Figure 2.) Early advertisement to entice workers to the E. C. & M. Co. of San Francisco.

indicate that its factory and salesroom were located at 134 Sutter Street between Montgomery and Kearny.

The company supplied telegraph wire, insulators, and poles. They also dealt with commercial and private telegraph lines, submarine cables, and various types of fire alarm systems. (Figure 1.) Since it was the only company of its type west of the Mississippi, it supplied construction and maintenance equipment to many of the western states, British Columbia, and south into Mexico. It is credited with updating Western Union telegraph lines throughout the western states. Business was good and

work plentiful for those who wanted to venture to the West Coast. (Figure 2.)

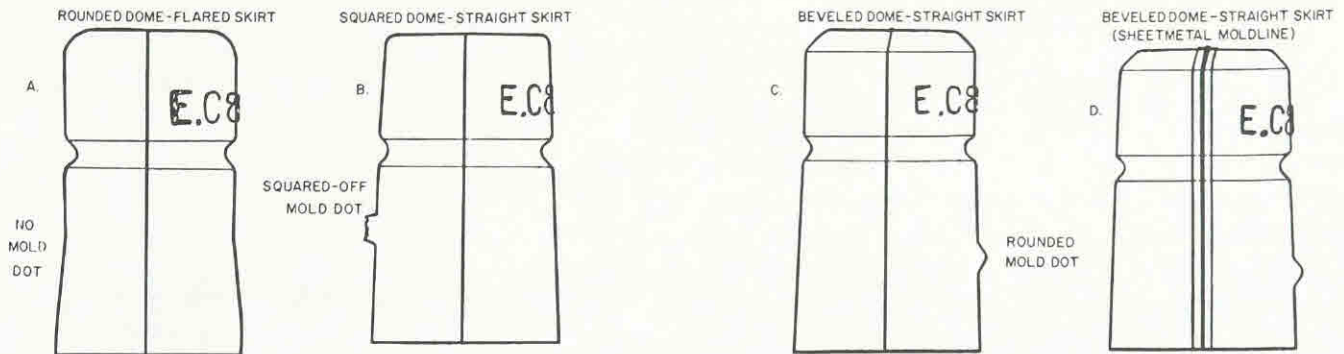
Insulators used by the company are embossed "E.C.&M. Co. S.F." The embossing is always located on the front of the dome. The shape and design (CD 123) are both unique to this company. Four main varieties

(Figure 1.) An early invoice dated March 19, 1875, indicating the business interests of The Electrical Construction and Maintenance Company. (Courtesy of James Doty)

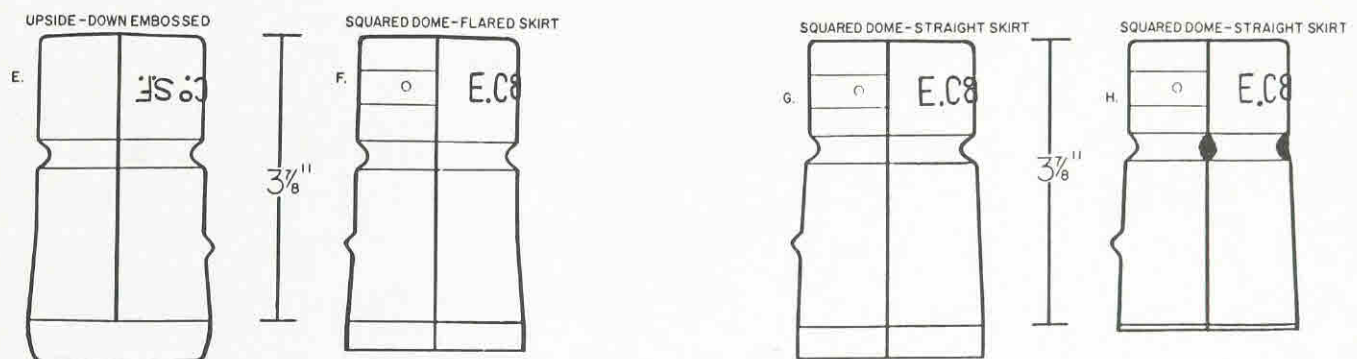
have been located. (Figure 3A.) There is a wide variety of heights in the E.C. & M. Co. insulators. They can range anywhere from three inches to five inches tall, dependent upon the amount of glass poured into the mold and the depth that the screw thread plunger was turned. Their insulators display some of the most spectacular colors; cobalt, amber, olive green, and a wide range of aquas, some of which have glass imperfections such as amber,

milk, and steam. The rarest E.C. & M. Co. S.F. insulators are the ones which are embossed upside-down and those found in a purple. (Figure 3B.) To date, the manufacturer of these insulators has not been established; however, it is thought to be the Pacific Glass Works of San Francisco.

The E.C. & M. Co. underwent reorganization in 1877 and terminated their business operations.



(Figure 3A.) Pictured above are the three dome styles of E.C. & M. Co. insulators. (A) The rounded dome, flared skirt is the only E.C. & M. without a mold dot. Colors are aquas, dark opaque green, emerald green, cobalt blue, light cobalt, dark ink blue, light green, dark lime green, light blue, olive green, and olive amber. (B) The square dome, straight skirt is also known as "flat top, square dot" and "flat dome". These come in sage and lime greens, aquas, dark ink blue, purple, dark yellow amber, olive amber and blackglass amber. (C) The beveled dome and a rounded mold dot are found in aqua, apple and lime green. (D) The style is the same as (C) except for the heavy sheetmetal mold line and is sometimes referred to as the "tin mold". E.C. & M. colors include light blue, dark ink blue, lime and apple green, and aqua. (Illustrations from July 1974 *Crown Jewels of the Wire* article by Fritz Kettenburg with color variations updated by E.C. & M. Co. specialty collectors)



(Figure 3B.) The upside-down-embossed E.C. & M. style and three others related to it have squared domes and a horizontal mold line around the insulator $3 \frac{3}{8}$ " from the top of the dome. All four have the same rounded mold dot. (F), (G), and (H) have a faint outline on the back side of the dome where the incorrect embossing was covered with a riveted plate. Height variations occur only between the horizontal mold line and the base. (E) The upside-down embossing is the rarest style and has a rounded rather than sharply beveled base. Colors include aqua, green, and cobalt blue. (F) has a rough base and the mold line over the dome cuts through the horizontal line to the base. The colors are dark opaque green, aqua, emerald green, dark lime green, light green, olive green, cobalt blue, light cobalt, light blue, and dark ink blue. (G) This style is identical to (F) except for a straight skirt. (H) This unit is the same as (G) except for rough lumps of glass in the wire groove at both mold line crossings and in front under the embossed "M". Colors for the (G) and (H) styles are aquas, dark ink blue, Aurora blue, ambers, blackglass amber, purple, sage green, and light and lime green. (Illustrations from August 1974 *Crown Jewels of the Wire* article by Fritz Kettenburg with color variations updated by E.C. & M. CO. specialty collectors)

California Electrical Works

THE CALIFORNIA ELECTRICAL WORKS

A reorganization of the Electrical Construction and Maintenance Company of San Francisco took place in June 1877 when the California Electrical Works was incorporated, succeeding by purchase the businesses of E.C.&M. Co., the California Electric Power Company, and the Pacific Electro-Depositing Works. George S. Ladd was listed as president. Paul Seiler, who along with Joseph Herz had been the proprietors of the California Electric Power Company located at 412 Market Street, became superintendent of the manufacturing department as a result of the reorganization. Offices and works were at 134 Sutter Street, the same location as their predecessors.

In its 1878 catalog (Figure 1.) C.E.W. offered a wide variety of services. In the same catalog, an insulator resembling a CD 123 was offered. (Figure 2.) This style was used until about 1880 by C.E. W. Co. and is found with only the "E.C. & M. CO. S.F." embossing.

However, there were three styles of insulators manufactured with a California Electric Works embossing. The CD 130 and CD 130.1 (Figure 3.) are embossed "CAL. ELEC. WORKS" and a pony style (CD 120) can be found unembossed as well as embossed with "C.E.W." on the skirt of the insulators. The CD 130 style is found in a variety of shades of aqua, some of which contain streaks of amber, bubbles, and steam. The CD 130.1 has been found in cobalt and aqua. The most popular color is the vibrant cobalt color in which this style is found. The CD 120 C.E.W. units show an even greater variety of height and colors. This style is available in aqua, purple, cobalt, and olive green. Colors other than aqua are quite rare. Unembossed units are found only in purple, aqua, and a light straw color. The manufacturer of the California Electrical Works insulators is unknown.

The California Electrical Works also continued to influence installations in Canada that had been established by the E.C.&M. Co. The George S. Ladd Chapter of the Telephone Pioneers of America, San Francisco, has made available the minutes of the board of directors meeting on March 10, 1880. In the minutes we find the company associating with McMicking, a leading contributor to the development of the Canadian telegraph and telephone industry: "A communication from Manager Seiler relative to the appointment of R.B. McMicking as agent of the Company at British Columbia was read and on motion of Mr. Tevis, seconded by Mr. Wilson, Mr. McMicking was duly appointed as such agent on such commission as

may be hereafter established."

Since the California Electrical Works spanned many years, plant relocations were inevitable. (Figure 4. through Figure 7.) In 1882 Monroe Greenwood succeeded George S. Ladd as company president. In the California Electrical Works record book chronicling the meeting of the board of directors on October 16, 1888, Superintendent Paul Seiler was discharged. Minutes indicated that an amount of \$1,200.87 was credited by Superintendent Seiler without authority. His discharge was due to his giving credit to persons in violation of express order of the board of directors, for acts detrimental to the interests of the company, and for violation of his

THE CALIFORNIA
ELECTRICAL WORKS

DEALERS
IN TELEGRAPH
WIRES, INSULATORS AND
POLES, SUBMARINE CABLES, OFFICE
WIRES, REGISTERS, SOUNDERS, RELAYS,
KEYS, SWITCHES AND BATTERIES, ELECTRIC
BLASTING MACHINERY, EXPLODERS AND LEADING WIRES,
MINING SIGNALS AND BELLS, ELECTRO-MEDICAL APPARATUS, TOWER
CLOCKS FOR PUBLIC BUILDINGS, ASTRONOMICAL CLOCKS, AND
REGULATORS, ELECTRIC TIME DIATS, AND WATCH-
MEN'S CLOCKS, TELEPHONES, FIRE ALARM
MACHINERY, ELECTRICAL GAS-
LIGHTING AND EVERY-
THING IN OUR
LINE.

All Kinds of Electrical Apparatus Made to Order & Repaired

CONTRACTORS

FOR THE

Construction of Telegraph Lines

FIRE ALARMS, BURGLAR ALARMS, HOUSE AND HOTEL ELECTRICAL
ANNUNCIATORS, AND OTHER ELECTRICAL SYSTEMS.

OFFICE AND WORKS - - 134 SUTTER STREET
SAN FRANCISCO, CALIFORNIA, 1878.

(Figure 1.) 1878 California Electrical Works catalog which indicated the type of services in which the company was involved. (Courtesy of Glenn Yows)

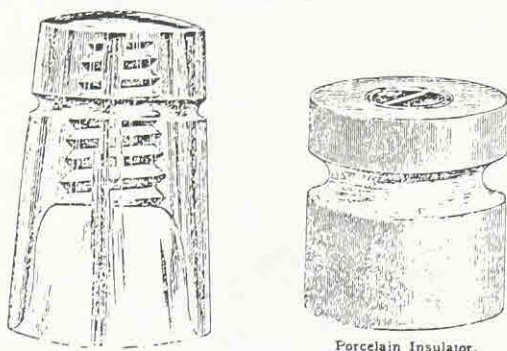
contract with the company. His discharge was to be effective October 31, 1888, and the secretary was instructed to inform Seiler of the board's action. After eleven years in the service of the California Electrical Works, Paul Seiler went into business for himself in direct competition with his former employers.

In 1892 California Electrical Works became the West Coast agents for Western Electric Company which

was owned by the American Telephone & Telegraph Company. C.E.W. continued under its own name until May of 1908, when it became known as the "Western Electric Company".

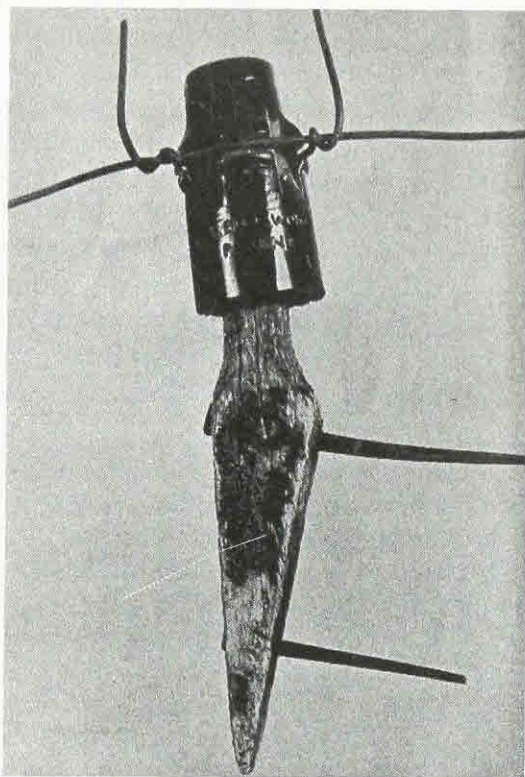
California Electrical Works.

INSULATORS.



Porcelain Insulator.

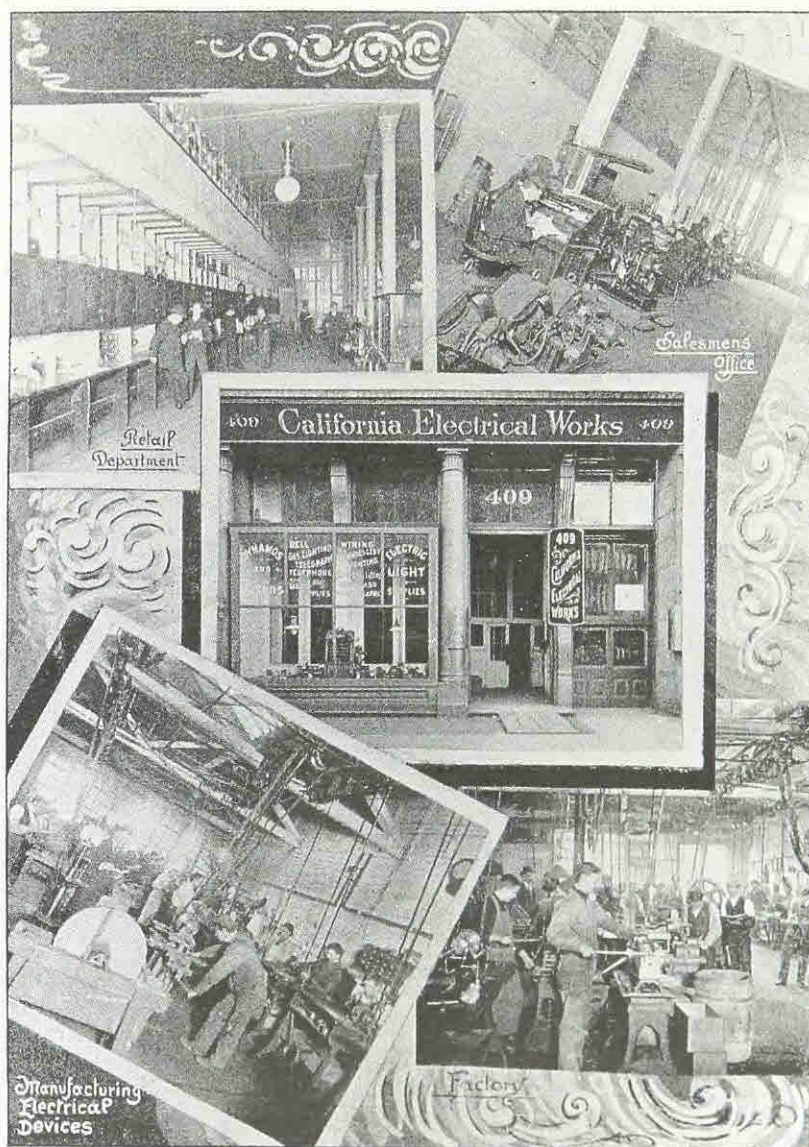
(Figure 2.) Two insulator styles offered in the 1878 C.E.W. catalog. The pintype on the left resembles the CD 123 found with embossings of the "E.C.&M. Co." They were offered for 12.5 cents each or a barrel of 100 units for \$10.00.



(Figure 3.) A CD 130.1 on an original wooden bracket. These insulators were used by C.E.W. with No. 8 iron line wire. (Photo courtesy of Hans Kettenburg)

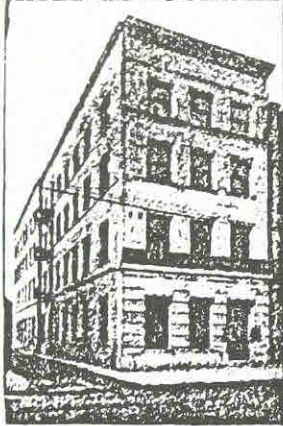


(Figure 4.) "Some of the West's pioneer telephone workers in front of their shop, the California Electrical Works, 35 Market Street, San Francisco. This picture was taken in 1880, two years after the organization had completed the world's first long distance telephone line." (Photo by Hans Kettenburg, courtesy of Glenn Yows)



(Figure 5.) "Illustrated are the various departments of the California Electrical Works, whose business is the manufacture and sale of electrical apparatus and the wiring of buildings. It outfits for power as well as illumination, and is under the direction of men of honorable fame in the commercial world. Their address is 409 Market Street, San Francisco." (Photo by Hans Kettenburg, courtesy of Glenn Yows)

California Electrical Works
PACIFIC COAST AGENTS
WESTERN ELECTRIC CO.
 MOTORS, GENERATORS, ARC AND INCANDESCENT LAMPS
 ELECTRICAL CONSTRUCTION AND MANUFACTURING
 ELECTRIC LIGHT AND HOUSE SUPPLIES
OFFICE AND FACTORY
547 MISSION STREET - San Francisco
TELEPHONE PRIVATE EXCHANGE 144



(Figure 6.) Circa 1903 advertisement for the California Electrical Works with office and factory at 547 Mission Street. (Courtesy of Glenn Yows)

Paul Seiler Electrical Works

PAUL SEILER, PROPRIETOR
PAUL SEILER ELECTRICAL WORKS
MANUFACTURERS AND DEALERS IN
TELEGRAPH, TELEPHONE & ELECTRIC LIGHT SUPPLIES
WIRE, WHOLESALE AND RETAIL
 408 and 408 Market Street

Paul Seiler was born in Berlin, Germany, in 1845 and arrived in California in 1866. (Figure 1.) While proprietor of the California Electric Power Company, Paul Seiler made application on November 18, 1876, and was issued a patent on February 6, 1877, for an insulator design. One half of the patent rights was assigned to his business partner, Joseph Herz. (Figure 2.)

There is only one style of insulator which is embossed with the Seiler patent date. It is embossed on the front skirt "SEILERS PATENT/FEB. 6-1877" and on the rear skirt "PATENT/DEC. 19-1871". It should be noted that this insulator contains a Hemingray patent date and may have been manufactured by that glasshouse. The style of the CD 130.2 Seiler insulator is very similar to the CD 130.1 style used by California Electrical Works.

The major difference is that the Seiler unit has six ribs while the CAL. ELEC. WORKS insulators have four.

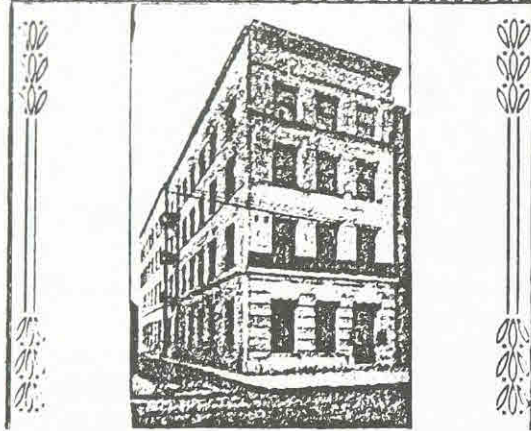
It is possible that when Seiler became superintendent of the California Electrical Works in 1878, he modified his 1877 patented insulator style to be used as one of the three styles offered by his new employers. The Seiler insulators are very rare and have been located in aqua and green.

The May 1889 San Francisco *City Directory* lists Paul Seiler and James H. Baggs as proprietors of the Paul Seiler Electrical Works at 406 Market Street. From 1889 until the earthquake and fire of 1906 destroyed the business, Seiler's location was listed at 406 & 408 Market Street. (Figure 3.) The Works were relocated to 845 Octavia Street just outside the western limits of the fire's progress. (Figure 4.) In 1908, the business was moved to its final location at 322 Market Street where it remained until at least 1916.



(Figure 7.) The 642 Folsom Street plant of California Electrical Works. Note that the sign on the building indicates that they are the West Coast agents for the Western Electric Company. (Photo by Hans Kettenburg from Ron Ross collection, courtesy of Glenn Yows)

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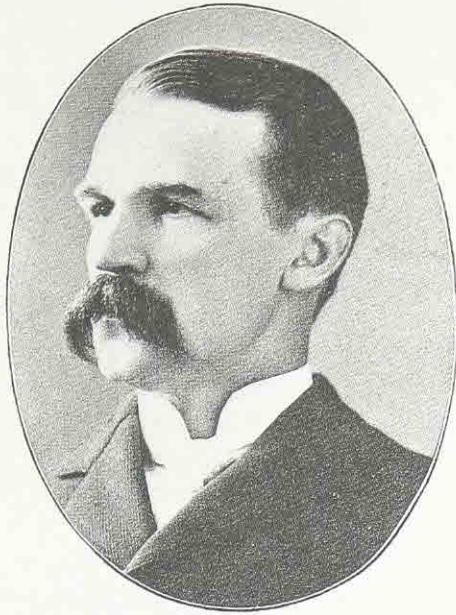
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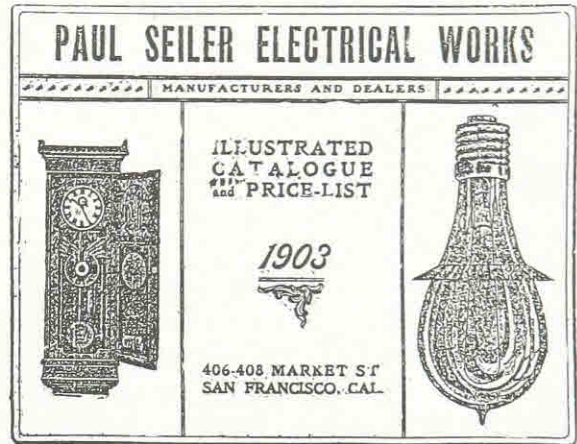


(Figure 7.) The 642 Folsom Street plant of California Electrical Works. Note that the sign on the building indicates that they are the West Coast agents for the Western Electric Company. (Photo by Hans Kettenburg from Ron Ross collection, courtesy of Glenn Yows)

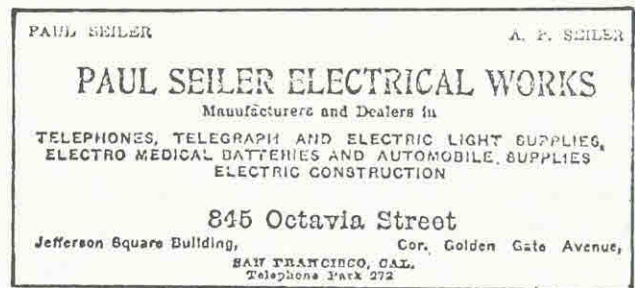


(Figure 1.) Paul Seiler

(Photograph courtesy of the Wells Fargo Bank History Room, San Francisco, California)

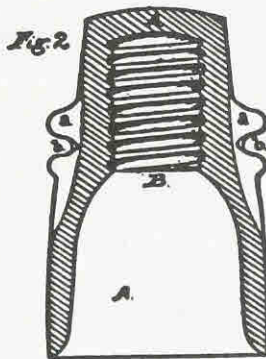
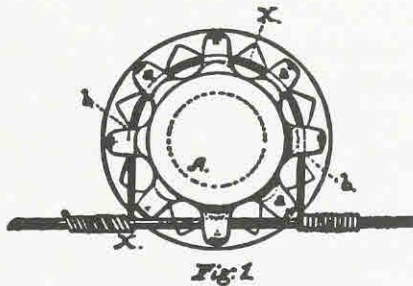


(Figure 3.) 1903 catalog of Paul Seiler Electrical Works.



(Figure 4.) Temporary location after the earthquake and fire of 1906. A.P. Seiler is the son of Paul Seiler who was a partner in the business.

P. SEILER.
TELEGRAPH INSULATOR.
No. 107,103. Patented Feb. 6, 1877.



Witness.

R. S. Dyer
L. J. Kelly

Inventor.

Paul Seiler
John M. Smith

Gratitude to Glenn Yows of Upper Lake, California, and Jim Doty of Simi Valley, California, for the historical papers and photographs. Their private collections of historical documents are based upon the research by Ron Souza, Greg Kareofelas, Gary Cranfill, Hans and Fritz Kettenburg, Pat Patocka, Glenn Sievert, and Ray Klingensmith.

(Figure 2.) At the left is Paul Seiler's February 6, 1877 patent design which provided for six longitudinal ribs which strengthened the body of the insulator without increasing the size and bulk, and allowed for attachment of the line wire to the ribs. The channels between the ribs carried off the rain from between the wire and the glass keeping the surface of the insulator clean and fresh.

THE MANUFACTURING COMPANIES

California Glass Insulator Company

The establishment of the California Glass Insulator Company in Long Beach, California, came about through the successful culmination of a long search conducted by its founder, Robert P. Trist, for a good glass sand in southern California. On Mr. Trist's second visit to Long Beach he learned of the discovery of high-grade silica sand at Horse-shoe Bend, which proved to be just what was needed. A contract was then secured from the American Glass Sand Company, which was mining the sand, guaranteeing the glass company a supply of at least five carloads of sand a day. The machinery, the patents of which Mr. Trist controlled, was immediately ordered, and work was started on the first of three proposed units.

The company's site consisted of ten acres, located in the northern part of the Long Beach harbor district, and was served by the Southern Pacific and Pacific Electric railroads. Within the fenced enclosure of three and one half acres devoted to the first unit, the contractor, Marcus Campbell, built a group of five buildings. These substantial buildings were occupied by the main manufacturing plant, the power house, storerooms, and the office.

Adjoining that three and one half acre tract on the east was a two and a half acre site which was purchased by the glass company, and the second unit of the three proposed units was built. The second unit was for blowing bottles, chimneys, carboys, jars, and various sizes of vials.

The company had an option on four acres adjoining the first tract on the north, intending, in due time, after the first two units were operating steadily, to install equipment for the manufacture of window plate and reinforced wire glass.

Power was secured from the then new Southern California Edison plant. Wire connections were made on March 27, 1912, to the California Glass Insulator Company's motors, which were 250 horsepower each. The glass company also installed an auxiliary generating plant of its own, in case of an emergency.

The equipment of the plant included a complete foundry and machine shops, in which were made all the machinery needed in the manufacturing of glassware, such as molds, patterns, etc. Fuel oil was used in generating heat for melting the raw materials; a 100 horsepower compressor operated by motor was required to furnish pressure for the fuel oil, of which a large quantity was used, and supplied by the California Oil Company.

The main building of the first unit housed the "tank", which the layman would call a furnace, in which the raw materials--sand, soda and hydrated lime--were melted under a temperature of 2400 to 3000 degrees Fahrenheit.

Arranged around the rear of the tank were the "shops", or insulator pressing machines, of which five were in operation in May of 1912, with provision for four more. Each shop required a crew of five men; one to draw the molten glass from the tank, one to cut off the exact quantity of glass required to make an insulator, another to remove the screw core, one to take the insulators from the molds, and the fifth to carry the insulators to the tempering furnace, or lehr.

Having successfully established the operation of its first unit, the company started construction of its second unit for manufacturing bottles, etc. The second unit required the construction of another building similar to the main structure of the first unit. The first bottle machine arrived on May 20, 1912. It had the capacity of 500 dozen bottles per eight-hour day. The bottle products were to be sold only locally in California.

The manufacture of glassware was an industry commonly supposed to be one best adapted to conditions existing in the more mature industrial centers of the East at that time. Yet with the landing of the essential raw materials in southern California, and with the more favorable climatic conditions to be found in Long Beach, the third essential feature, that of experienced workmen, proved to be a problem with an easy solution. The California Glass Insulator Company, in May 1912, was employing a force of nearly 50 men, most of whom knew nothing about glassmaking. Yet the workmen were daily gaining skill and were soon producing at the full capacity of the plant--about 15,000 insulators a day. (Figure 1.)

The Pacific Coast demand for insulators was estimated at 18,000,000 a year in 1912, representing about 7,200 tons of glass, used in the extension work of the telephone and telegraph companies, power transmission, electric transportation, etc. Before this factory went into production, the annual consumption west of the Rockies had been shipped by two eastern manufacturers, Brookfield and Hemingray. The average freight rate from these two factories had been estimated at \$8.05 per thousand insulators. The advantage of reduced freight expense was alone a sufficient incentive to the men who started the California Glass Insulator Company.

The Journal of Electricity, Power and Gas, November 30, 1912 issue made the following announcement:

Electrical men throughout the country will be interested in the announcement that glass insulators are now being made at Long Beach, California, by the California Glass Insulator Company. This company has completed the installation of the latest and most up-to-date machinery, and commenced operations in October of this year under the experienced management of Robert P. Trist.

The resulting insulator is as near perfect as the most thorough inspection can accomplish. Standard types are manufactured for telephone, telegraph and power use, and special designs are made in accordance with the customer's specifications.

Arrangements have been made with the Pacific States Electric Company to distribute the products of the California Glass Insulator Company, a full stock now being carried at the Los Angeles, San Francisco, Oakland, Portland and Seattle house.

A reorganization of the California Glass Insulator Company took place in 1914, and was known from then on as the "California Glass Works". The plant was destroyed by a flood in 1916 and was never reopened.

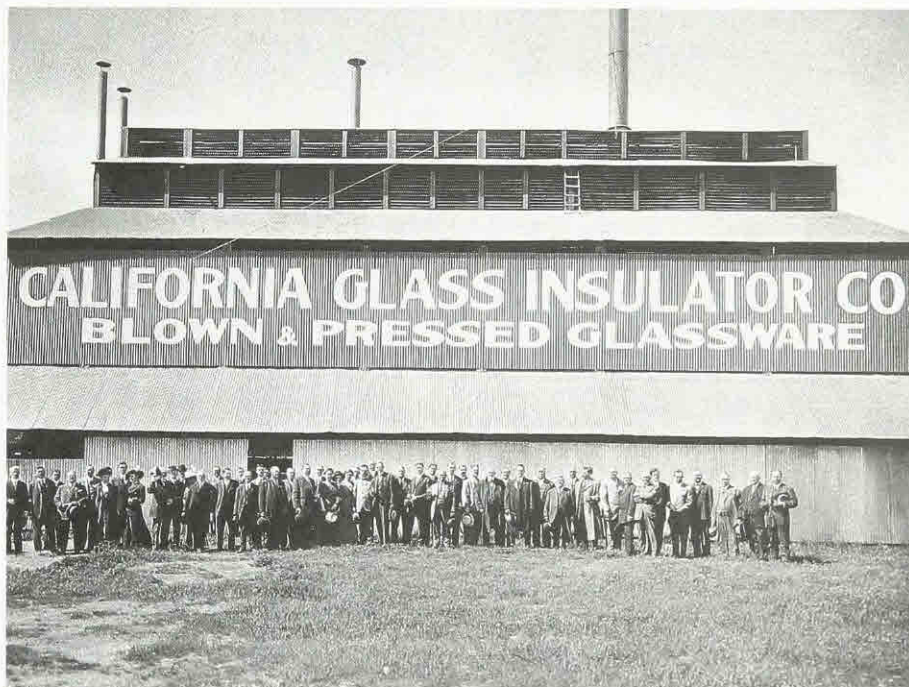
Insulators manufactured there have been found in 22 different mold styles. Only the CD 102 pony is embossed "C.G.I.CO.", while all other units are embossed with "CALIFORNIA". The CD 121 toll, CD 166 signal, CD 178 and the wire strain styes have embossing which includes a style number. The CD 178 also has embossings which include "SANTA ANA" on one half of the skirt mold.

California-produced insulators have distinctively different colors: Purples can range from a smoky rose to dark plum and burgundy colors, while the greens can take on a blue green color to a sage color. There are also California insulators found in a yellow or straw-like color. In *A Handbook for the Recognition & Identification of Fake, Altered, and Repaired Insulators*, by Mike Guthrie (see Bibliography), the yellow California color is discussed:

Much experimentation has been conducted to attempt to change the color of insulators through heating... The results of this practice are most visible in the "CALIFORNIA" and "C.G.I. Co."-embossed insulators. The application of heat turns purple Californias to yellow and some greens to yellow greens. While numerous California yellows have been authenticated by their finders, there is more than ample evidence that many yellow specimens have been heated to achieve their color.

This history was prepared from excerpts from "The California Story", which was authored by Ted Griffin and was originally printed in the September 1982 issue of *Insulators - Crown Jewels of the Wire*. Mr. Griffin has been an enthusiastic collector of California glass for many years. His collection is considered to be one of the most complete, which is a real accomplishment considering how far removed he lives from the source. His address is: 305 E. Clark Road, Ypsilanti, Michigan 48198.

The reprint of the *Journal of Electricity, Power and Gas*, November 30, 1912, was furnished by Elton Gish.



(Figure 1.) California Glass Insulator Company plant employees at Long Beach, California.
(Photo courtesy of Ted Griffin)

William McLaughlin and McLaughlin Insulators

William McLaughlin was unique in the insulator world, as he was the only major American insulator personality who survived from the age of insulator manufacturing to the age of insulator collecting. As the proprietor of the McLaughlin Glass Company, he succeeded a host of major West Coast insulator manufacturers and, when a patent infringement suit forced the dissolution of that company, McLaughlin reentered the field as the major-domo behind Maydwell & Hartzell's and Crystallite Products Corporation's joint venture, the Maydwell insulator line. When McLaughlin reentered the field in 1972 with his 75th anniversary private issue insulators (for hobbyists and aficionados alike), the last American glass insulator manufacturer (See Kerr Glass Manufacturing Company chapter) had already been out of that business for three years.

William McLaughlin was born in Kansas on August 12, 1884, and was twelve years old when he became a blacksmith's helper in Valverde, Colorado, (near Denver). The following year (1897) he was working in Valverde's glass factory, working on an insulator press and, later, as a glass bottle-blower. The plant was owned for that year by Robert Good, Jr., who sold the factory shortly after McLaughlin's arrival as a teen-age apprentice. Upon Good's departure, Valverde's insulator business was terminated, and settled on the exclusive manufacture of glass bottles and jars. McLaughlin was part of a six-boy team that made mustard jars. As recounted in his letters to the readers of *Old Bottle Magazine*, William McLaughlin was dreaming even then of owning his own glasshouse!

In 1907, William McLaughlin faced a change of direction. A fire had destroyed the Western Glass Company's Valverde plant (for the second time) and Illinois Glass overran Western by simply hiring all of their sales staff. McLaughlin worked for a couple of more years in the Denver area, making vials for homeopathic doctors and, longing to return to glass-blowing, got a job at a small glass factory in Kansas City (in 1909). When that plant, too, burned down, McLaughlin moved on to Alton, Illinois, and the Illinois Glass Company. McLaughlin returned to Kansas City in 1910, got married, and then took a job with Illinois Pacific Glass Company in San Francisco. In 1915, McLaughlin moved to Los Angeles and borrowed from an insurance policy to start a small glass factory of his own. Despite several years of lean times, McLaughlin built a larger plant in Vernon, California, (at the corner of 52nd and Alameda Streets) in 1920, and this is where the insulators that bear his name were manufactured. (Figure 1.)

McLaughlin got a break in his young business when a fire destroyed Illinois Pacific's factory in May of 1920 and orders for a large quantity of water bottles for drinking water fell on McLaughlin's company. (Figure 2.) McLaughlin got into the insulator business in the late

1920's when he bought the molds and presses from the defunct Glass Casket Company of Santa Monica, California. Establishing a marketing arrangement with Maydwell and Hartzell, a sales agent in San Francisco who already had a line of switches, poles and wire to sell, was a good relationship for all concerned. No doubt, Maydwell was strictly a West Coast distributor, which is why few McLaughlin (and Maydwell) insulators ventured to lines in other areas of the country.

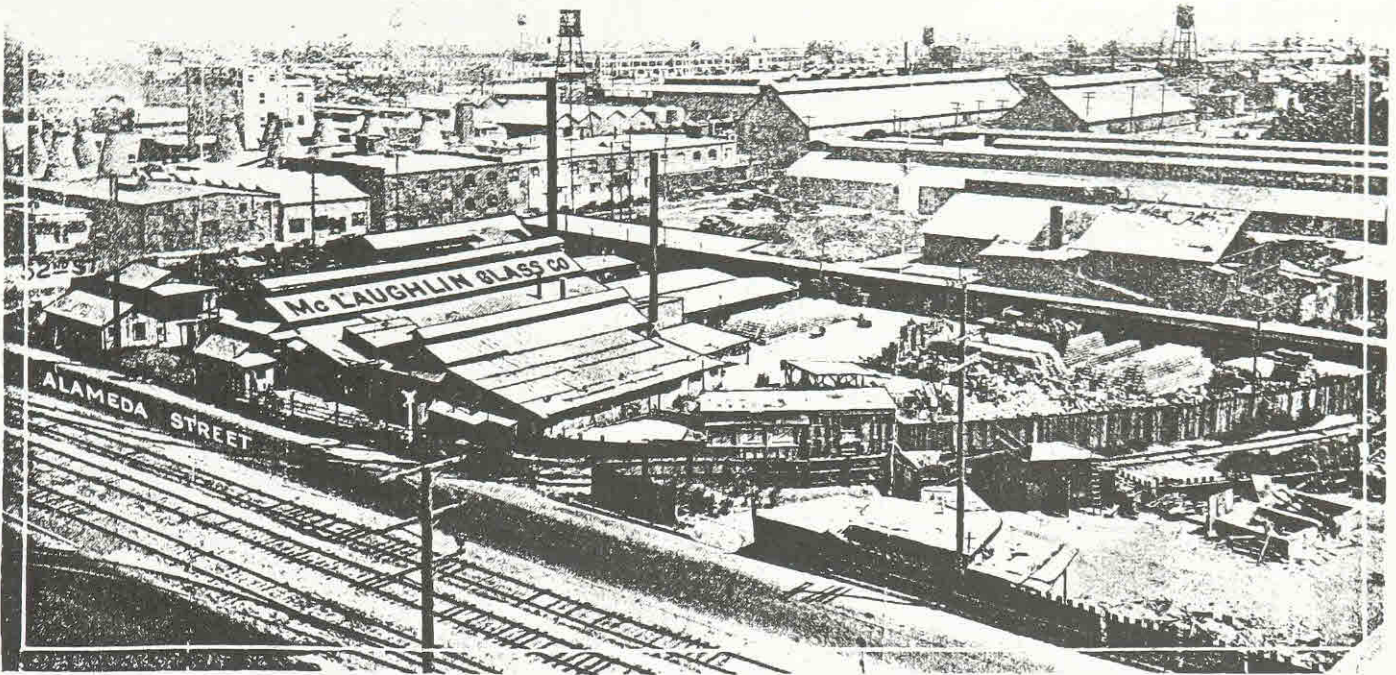
In the 1930's, with the formation of the Glass Container Association, McLaughlin lost much of his larger bottle business and tried his hand at making colored water lamp bases to offset the lost bottle business. During the period from 1933 to 1935, McLaughlin was making amber beer bottles for a large beer distributor and encountered resistance from both the local brewery and its employees. McLaughlin finally lost a court battle over this issue and, with a decline in insulator production, McLaughlin pondered other means of livelihood. When McLaughlin also lost a suit involving patent royalties over the delivery of molten glass to the molds, the end was at hand and McLaughlin sold his glass factory in 1935. William McLaughlin then entered the electrical fixture business, ending his long association with glass manufacture for the time being.

In 1972, to celebrate the 75th anniversary of his start in the glass business, William McLaughlin built a small glass factory in his garage and made commemorative insulators, similar to CD 162, with simulated threads and smooth bases, in a variety of milkglass and stained or slag glass combinations. They were popular from the onset and have become even more popular in the years since their manufacture. (Figure 3.) Despite their initial popularity, McLaughlin received undue criticism from a part of the hobby populace, who apparently felt McLaughlin was marketing fake insulators. McLaughlin stopped producing his private issue insulators for the general public, which was certainly the hobby's loss, but not before he had made a small quantity of unique red milkglass commemoratives for his family and friends. William McLaughlin died on July 17, 1975, one month shy of his 91st birthday.

McLaughlin insulators were manufactured in most of the popular and best-selling styles of the early 20th century.

CD 106	No. 9
CD 115	No. 10
CD 160	No. 14
CD 121 & 122	No. 16
CD 162	No. 19
CD 164	No. 20
CD 152	No. 40
CD 154	No. 42
CD 252	No. 62

The No. 40 was apparently either a poor seller or a problem insulator, since they have been found in very short supply. That fact is amplified since it is the ONLY McLaughlin style (other than the USLD) which was not



(Figure 1.) The McLaughlin Glass Company located at 52nd and Alameda Streets in Vernon, California.

manufactured by Crystallite Products as well.

The USLD (CD 139.9) is, in itself, a curiosity, since it is a style unique to McLaughlin. Vic Sumner, a California telephone historian, indicates "the embossing stands for 'United States Long Distance'. This was a telephone company formed in southern California in 1902 and granted a franchise from the city of Los Angeles the next year to operate in that city. Within two years U.S.L.D. had long distance lines to nearly every city and town of any consequence from Santa Barbara to San Diego. In 1911, Pacific Telephone & Telegraph had acquired control of U.S.L.D. and in 1930 disbanded the company." Of further interest is the fact that two distinctive dome styles (one fairly tapered to a point and the other more rounded) suggests that there were two (or more) USLD molds!



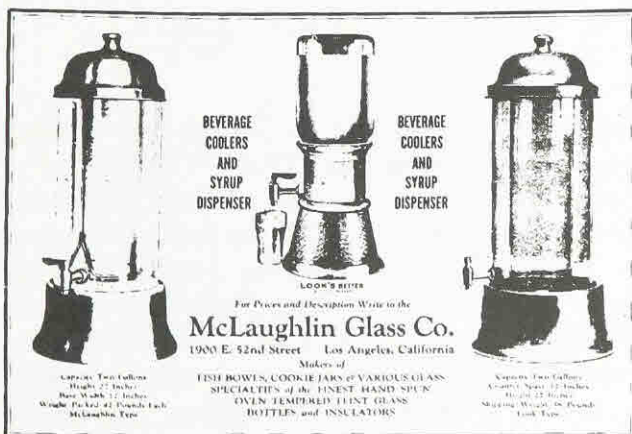
McLAUGHLIN'S SUPER SWIRLS

William McLaughlin's new insulators are made of white milk glass. Some have swirls in the glass of red, orange, pink, blue, brown, tan and light purple, but none are to be alike. So the swirls might be any color. The above colors are in the one appearing in the photograph. On one side is McLaughlin No 19 and on the other side is 1897-1872

There are stepped up threads in the insulators which can be seen in fig. 44-A. Naturally, these insulators could not be put on a threaded peg but at first glance they appear to be threaded.

William has not figured out how much the insulators will cost. He would like to be reimbursed for his equipment, materials and fuel. Also all of the "bugs" have not been eliminated and the first batches have had a few flaws that that he does not like.

Although Mr. McLaughlin's address has been printed elsewhere and many of you are aware of where he lives, it is hoped that no one will bother him until he makes an announcement that he is satisfied with his new insulator and that it is for sale. You will be the first ones to have all of the facts when they are available ■



(Figure 2.) McLaughlin ad which appeared in the 1926 National Bottle Gazette which resulted in many domestic and foreign orders.

(Figure 3.) The April 1973 Old Bottle Magazine ran this announcement of "McLaughlin's Super Swirls". The date of their availability was still unclear due to production "bugs".

The CD 122 also has been found in two styles, one with the traditional squared-shoulders wire groove, and the other a rounded wire groove.

McLaughlin insulators have been located in a wide variety of colors, including shades of aqua, light green, lime and apple greens, emerald (gin bottle) green, sky and delft blue, straw and light peach, sage, several shades of blackglass (olive, amber, teal green and forest green), and a vivid citron yellow, which is sometimes accentuated with olive amber swirls. There has long been rumored the existence of a white milkglass McLaughlin-20, but that piece is unsubstantiated. Most McLaughlin insulators have been found with drip points (round, sharp, and flat), although some McLaughlin 42's, 10's, 16's (CD 121), 19's and 20's and all of the USLD's have been found without drip points. Despite their relative commonness and newness, especially compared to 19th century pieces, McLaughlin insulators are popular with collectors, especially for their colors.

Crystallite Products and Maydwell Insulators

With the departure of McLaughlin Glass Company, Maydwell and Hartzell needed a source of insulators to sell. McLaughlin's insulator equipment was purchased by Crystallite Products Corporation, located at 1708 Standard Street in Glendale, California. Crystallite went into production almost immediately upon their incorporation, and made most of the styles of insulators previously supplied to Maydwell & Hartzell by McLaughlin. The Crystallite insulators were all embossed "MAYDWELL" and continued to be sold to Maydwell & Hartzell's customers, including Postal Telegraph and Pacific Gas & Electric. In 1939 or 1940, Crystallite stopped production of its insulator line and Maydwell & Hartzell became distributors for Owens-Illinois' Hemingray insulators.

Maydwell insulators were made in the same styles as McLaughlin, with the exception of style No. 40 (CD 152); also there was no USLD (CD 139.9). Maydwell's insulators are also far less colorful and were made in flint glass shades (clear, straw, pink, a very light sun-colored purple, peach, and ginger ale.) The style No. 20, Maydwell 20, was the only style Crystallite made in any color other than flint. It was also made in white milkglass, and these were sold to power companies in Maydwell & Hartzell's territory as a substitute for white porcelain insulators on neutral wires. All of the Maydwell-embossed insulators were made with drip points (either round or tiny sharp). It is interesting to note that the two CD 122 styles made by McLaughlin were duplicated by Crystallite; in fact, the rounded wire groove style of Maydwell's are all embossed over blocked out "McLaughlin" embossing.

Although the white milkglass Maydwell's are fairly popular with collectors and dealers, interest in the Maydwell insulators generally is limited for most collectors.

Fake McLaughlin and Maydwell Insulators

There are few "fake" McLaughlin and Maydwell insulators known, but all of the known fakes are quite a sight, since they are purple! No McLaughlin was purposely manufactured in purple and odds are that the few flint glass McLaughlins made, just as with the Maydwells, contained so little manganese that solar ultraviolet radiation could only pinken them, at best. It has been a fairly common belief that several early hobbyists in the mid-to late 1960's irradiated or baked in a kiln several styles of insulators for the sole purpose of trying to alter their colors. There are several known Maydwell insulators, and a few McLaughlins as well, which were thus turned shades of purple, some with a bluish cast. All of these pieces are fantasy insulators, but only each individual collector can determine what such a piece is worth.

Unembossed McLaughlin and Maydwell Insulators

There are no No-Name McLaughlins or Maydwells, save one; the "castle" style (CD 206). Although McLaughlin never took credit for this piece, the colors and drip points, quality of glass, and the origins of their use, all point to the obvious conclusion that they were made by both McLaughlin Glass Company and Crystallite Products.

The McLaughlin castle insulator has been found near Taft, California, (light green) and in Hawaii (light blue and light blue aqua), and all have flat drip points, which were a McLaughlin hallmark. The Maydwell style was also used in Hawaii, and was made in light straw (both with rounded and square turrets) and with Maydwell's typical tiny sharp drip points. Although credit for the design or implementation of these insulators will probably never come to light, it is reasonable to connect the manufacture of the castle insulator with both of these companies.

"William McLaughlin and McLaughlin Insulators" and "Crystallite Products and Maydwell Insulators" was written by Kevin Lawless. Kevin lives at 41 Crestwood Drive, Schenectady, NY 12306, and has contributed to the insulator hobby as a collector, dealer, writer, show host for local club shows, and the 1986 National Insulator Association Convention in Saratoga Springs, New York. He has also served as the National Insulator Association's executive director and most recently as president from 1986-1988. Currently, he and his partner Doug MacGillvary operate Northeast Insulators which deals in buy-sell-trade insulator activities.