

# The NEW ENGLAND INSULATORS

## *The Influence of James G. Pennycuick on...*

### Diamond-P Insulators

Many collectors have wondered what the source is for the CD 134 insulators marked with the letter "P" enclosed within a diamond on the front skirt with the lettering "PAT. AUG. 11. 85." on the rear skirt. (Figure 1.)

Although the interpretation of the monogram and the manufacturer remains unknown, there is some speculation that these specimens were of Boston area origin. The insulators appear to have been made between 1885 and 1895.



PAT. AUG. 11. 85.

(Figure 1.) Embossing found on skirts of CD 134 Diamond-P insulators.

On August 11, 1885, James Pennycuick of Boston was granted a patent "for forming threads in articles of glass." The patent covered the process of removing the threading mandrel during annealing (glass cooling). (Figure 2.) No mention however, was made within the patent text of anything concerning insulator production.

All Diamond-P insulators appear to have been very well made, particularly the threads. The threading within these is noticeably sharp and concise, which is unusual for insulators of their vintage. This feature undoubtedly is the result of having used the Pennycuick threading process.

Identical threading of this nature has also been observed within all C.E.L.Co., Pettingell Andrews Co., and some CD 134 unembossed insulators. These insulators also are exactly the same shape as the Diamond-P specimens, appearing as though they came from the same mold set or were produced by the same moldmaker.

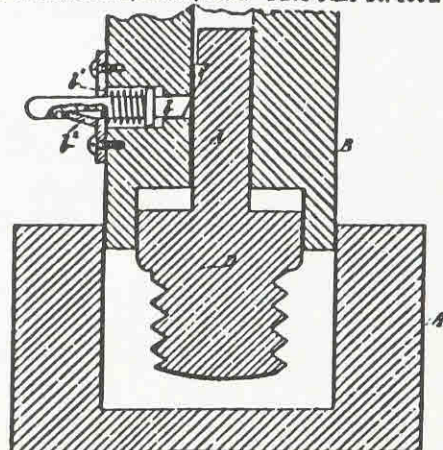
Pennycuick threading has been observed in numerous other insulator designs, all of which are unembossed. These include CD's 102, 104, 112, 121, 126, 145, 149, 166.2, 170, 170.1, 308 and possibly others, and are of an unattributed manufacturer.

None of these unmarked insulators are rare, and most styles were widely distributed throughout the United States. These insulators appear to have been made during the mid-to-late 1880's or early 1890's. Generally, these are light grayish or many shades of green or blue. On rare

occasions, they have been found in olive green, deep forest green, and light purple.

The vast majority of Diamond-P specimens have been located in Massachusetts and bordering states with reports of numerous finds in the immediate Boston area. Few have been found in distant states. It is interesting to note that all of these acquisitions were rather scattered. In only one instance does the author know of more than one Diamond-P having been located on the same pole. As with the C.E.L. CO. insulators, they have been found miles from each other, as though they were used as replacements.

824,157. METHOD OF FORMING SCREW-THREADS ON GLASS.  
JAMES G. PENNYCUICK, Boston, Mass. Filed June 26, 1884. (No model.)



*Claim.*—The method of forming screw-threads on articles of glass or like material heretofore described, consisting in molding the articles in contact with a screw-threaded plunger and annealing the articles before withdrawing the plunger, substantially as set forth.

(Figure 2.) Summary and patent illustration of James G. Pennycuick's August 11, 1885 glass threading invention.

There is some evidence that Mr. Pennycuick was associated with glass manufacture. On December 7, 1889 the Electrical Glass Corporation purchased the property of the former Boston and Sandwich Glass Company which closed its doors during the preceeding year. The Electrical Glass Corporation's director was James Pennycuick and the works stood on Cape Cod, Massachusetts.

The February 4, 1890 issue of *The Sandwich Observer* stated that a market was waiting for Pennycuick's wares, consisting of glass pipe and insulators. Mr. Pennycuick wanted to treat the latter as a priority production item. As of that time, nothing had been manufactured at his works,



# Pettingell-Andrews Company Insulators

The Pettingell-Andrews Company existed in Boston from 1888 through 1927 and was a very well-known distributor of electrical goods and wiring supplies.

In 1888 the organization was known as "F.E. Pettingell & Company" and during the following year their name was changed to "Pettingell-Andrews & Company". (See 1924 letterhead below)

Their office address during 1888 and 1889 was 167 Congress Street, Somerville, Massachusetts, and in 1890 the firm moved to 196 Summer Street, Boston.



PETTINGELL-ANDREWS COMPANY  
BOSTON

Through 1927 the organization changed its office location in Boston on several occasions. During most of the company's existence, the Pettingell-Andrews Company was a prominent distributor of all manner of General Electric Company products.

All insulators manufactured on special order for this company, which are products of an unknown glassworks, are lettered "PETTINGELL-ANDREWS CO BOSTON" around the skirt. (Figure 1.) These are CD 134's, identical in appearance to the Diamond-P and C.E.L.CO. insulators, and have unusually sharp, concise screw-threading which appears to have been formed by using James Pennycuick's August 11, 1885 patent.

Pettingell Andrews Co. insulators are considered rare in the Boston area, where the majority of them have been located. Most of the in-service reports the author is aware of were on fire alarm signal lines.

These specimens generally are of medium aqua glass. Some have been located in much lighter aqua shades, while others are known in deep bluish aqua. All appear to have been produced between the late 1880's and 1900.

PETTINGELL ANDREWS CO BOSTON.

(Figure 1.) Pettingell Andrews Co. embossing found on CD 134 insulators.

since Pennycuick was experiencing troubles with acquiring workmen and additional finances. He had no difficulty, however, accumulating a list of interested customers and by April 1890 he had received numerous requests for samples, but production still had not commenced by then. Mr. Pennycuick commissioned the Sandwich Cooperative Glass Company to make the samples, with which his sales prospects were most pleased. This resulted in a large number of insulators ordered by late April.

It was not until May 1890 that Pennycuick had enough capital to work with, after having acquired a mortgage for his business. Between that time and November 1890, some glass insulators were made at Pennycuick's works. His mortgage was foreclosed at that time and the Electrical Glass Corporation's property sold at a public auction at a later date.

It is not known what lettering was used, if any, on the insulators made by the Electrical Glass Corporation and Sandwich Cooperative Glass Company. However, it is definitely possible the Diamond-P-embossed specimens originated at either or both glassworks. Since both companies held rights to produce glassware under Pennycuick's August 11, 1885 patent, insulators produced by each most likely consist of the characteristic Pennycuick-style threads.

Efforts have been made to determine if the Pairpoint Glass Works of New Bedford, Massachusetts, produced these insulators; however there presently is no evidence of this. Pairpoint's monogram also was the letter "P" enclosed within a diamond. They have been in existence since the mid-19th century and have always been well known for their art glass products which were made in a rainbow assortment of colors. They are still in business today (at Cape Cod, Massachusetts) making similar wares.

Diamond-P insulators are also noted in many unusual and various colors, such as vivid blues and many green shades. Some of these colors are unique to Diamond-P specimens and are spectacular. Others have been found in aqua shades, and some have been located in the above colors filled with slag, milky swirls, bubbles, etc. It is possible that if Pairpoint made these insulators in these wild color variants, they were the result of end-of-day (leftover) glass from product runs of their art glass or other items. Apparently, whoever made Diamond-P insulators did not treat them as a major production item or make them for very long since they are found so rarely.

The Diamond-P insulators discussed should not be confused with some similarly-marked CD 154 specimens (without a patent date). These are unrelated, of much more recent vintage, and suspected to be of Canadian origin.



## C.E.L. CO. Insulators

An obscure glass insulator embossing, possibly attributed to Boston area production, has been located on a few CD 134 insulators lettered "C.E.L.CO." on their skirts. As of this writing, there is no proof of what the initials represent.

These specimens appear to date from approximately 1885-1900 and are identical in design to the Pettingell Andrews Co. and unattributed Diamond-P (monogram) insulators. To collectors, the C.E.L. CO. insulators look as though they were produced in the same mold sets as the Diamond-P and Pettingell Andrews Co. insulators, leading some knowledgeable collectors to believe that these three insulator embossings were made at the same glassworks. C.E.L. CO. insulators also have threading identical to the threading found within Diamond-P and Pettingell Andrews insulators which were produced under James Pennycuick's August 11, 1885 patent.

C.E.L. CO. insulators are generally found in many shades of aqua, ranging from light to dark greenish aqua. Much scarcer are those specimens in yellow green and rich, medium blue.

All C.E.L.CO. insulators are boldly embossed, and every one the author has seen appears to have at least two letters removed from the mold in the area on the insulator where the letter "C" appears, preceding the "E". (Figure 1.) There is no evidence or clue as to what the preceding lettering was.

C . . E . L . C O .

*(Figure 1.) C..E.L.CO. embossing as it appears on the CD 134 insulators with Pennycuick threading. It is apparent that there was some previous lettering where the letter "C" is, as evidenced by blotted-out letters on all of these specimens.*

A second CD 134 signal embossed "C.E.L. CO." has been located, primarily in the Boston area. However, these insulators do not resemble the C.E.L.CO. specimens discussed above, are much more scarce, and are identical to the CD 134 insulators produced by Brookfield for the Thomson-Houston Electric Co. ("T.H.E. Co." lettering on skirt) and General Electric Co. ("G.E.Co." lettering on skirt). These C.E.L.CO. insulators are mold line-over-dome and have swirl-start threading, characteristic of CD 134 Brookfield insulators of the 1880-1890 period. Since this C.E.L. CO. variant so closely resembles Brookfield-manufactured units, the lettering may represent a utility or supply company which had these insulators specially made for them with their initials embossed on the skirt. (Figure

2.) It may be correct to attribute the Brookfield-appearing C.E.L. CO. specimens to the same utility or supplier as the ones which have the Pennycuick threading.

C . E . L . C O .

*(Figure 2.) C.E.L. CO. lettering found on Brookfield-made specimens.*

## Other New England Insulators

E.L. CO.

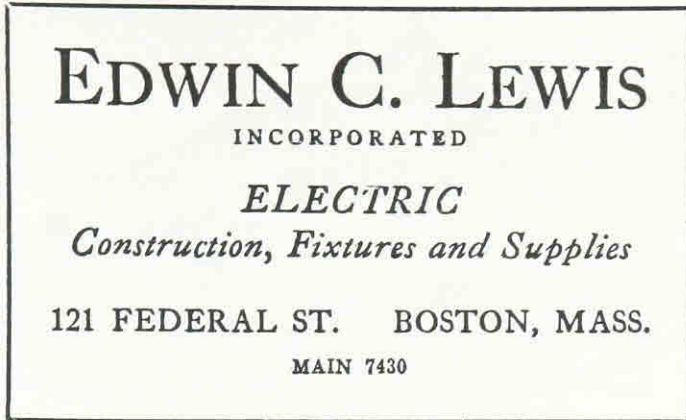
Another glass insulator embossing that has been located predominantly in the New England area is the CD 166.2 style, lettered "E.L.Co." on the skirt. These insulators appear to have been made between 1890 and 1910.

The manufacturer of E.L.Co. insulators is unknown. The specimens consistently are of aqua glass and appear to have been well made. The E.L. Co. insulators have uniformity of color, noticeable smoothness of contour, and standard pinhole threading.

By contrast, unembossed specimens of the same style vary greatly in color; have sharp, irregular edges around the insulator's curves with concise, noticeably sharp pinhole threading. Their manufacture seems to duplicate other units made using the August 11, 1885 Pennycuick patent.

The author has documented that a large number of E.L. Co. insulators were once used by an electric utility in New England on their primary and secondary voltage distribution lines. However, there has been no link established between the E.L. Co. lettering and the utility's initials.

While the meaning of "E.L. Co." has not been confirmed, it may stand for the "Edwin Lewis Company (Inc.)," a prominent electrical supply firm which existed in Boston around the turn of the century. Their catalogs illustrated Brookfield insulators which they distributed. Quite possibly during the Edwin Lewis Co.'s existence, insulators were made on special order for them with their initials embossed on the units. If so, the insulators would have been made prior to the company's incorporation at a later date. (Figure 1.)



(Figure 1. ) Edwin C. Lewis Co., Inc. advertisement of 1922.

## Fall River Police Signal and City Fire Alarm

Fall River, Massachusetts, used personalized insulators to identify wires used for communication between police call boxes located throughout the city and the local police station or fire station.

Insulators lettered "FALL RIVER" on the front skirt and "POLICE SIGNAL" on the rear skirt are found only in CD 134. Most are of light aqua glass and a few have been located in an attractive ice blue shade. These specimens appear to have been made between 1900 and 1915 and most likely are Brookfield products. Similarly, the CD 133 skirt-embossed "CITY FIRE ALARM" insulators also appear to be products by Brookfield and are found in a light aqua glass.

During the early 1970's the author located a number of both insulators in Fall River, and noted that they frequently shared the same crossarm carrying the wires for fire alarm circuits. Different embossings and shapes allowed the lineman to easily distinguish each department's lines.

As far as the author has determined, all Fall River Police Signal and City Fire Alarm insulators that have been located were used only in that city. Many of the circuits upon which these insulators were installed had the original wire still in use, dating back to 1900 or so. Other equipment, including crossarms, was old and in dire need of modernizing. By the early 1980's the city of Fall River upgraded all of its overhead signal and communications lines, converting them to modern, much more reliable plastic-covered paired cable. Needless to say, most of their crossarm construction is now gone, along with the insulators.

FALL RIVER POLICE SIGNAL

(Figure 1.) Skirt embossing found on Fall River Police Signal insulators.

CITY FIRE ALARM

(Figure 2.) Skirt embossing found on City Fire Alarm insulators.

"New England Insulators" was researched and authored by Joe Maurath, Jr. (See The New England Manufacturers chapter for biography)