INSULATOR SPOTLIGHT

CD 186, 186.1 & 186.2 Spark Gap Insulators ❋ By Bob Berry & Bill Meier

This insulator spotlight will focus on three experimental styles from Hemingray: CD 186, 186.1 and 186.2. All three were designed as spark gap arresters. A spark gap arrester provides a controlled gap between an electrode and ground to flash over on an over-voltage event such as a lightning strike. These would all be used with a metal pin that is grounded with a wire down the pole. Hardware would be mounted to the top of the insulators to provide the controlled gap connecting the top piece to the line wire and the bottom piece to the metal pin.

A January 8th 1946 patent (US 2,392,342) exists by Alwin G. Steinmayer that matches the design of the CD 186.1 which was assigned to the Line Material Company. This patent was applied for in January 1943 and granted in January 1946 so by the time the patent was granted, these experimental insulators may have already been scrapped! Just to note Alwin Steinmayer was a very prolific inventor with over 170 patents for line hardware, the most significant was the dropout fuse cut-out which is still used today.

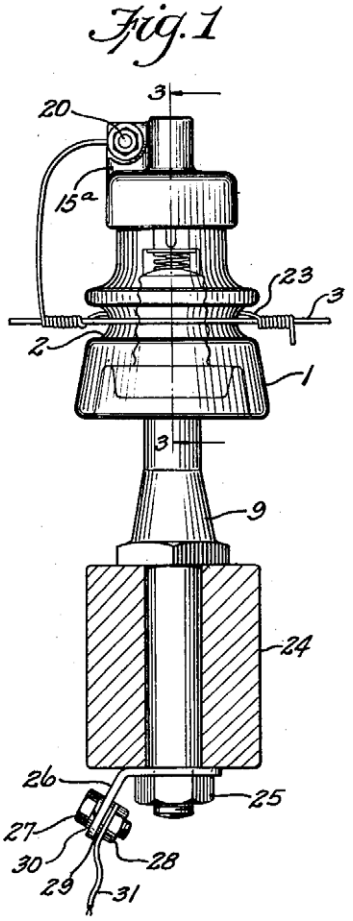
These three CDs appear to be made from the same two mold halves from the skirt of a regular HEMINGRAY CD 162 with various dome styles uniquely added. All the skirts are the same and carry the same date code 38: (the mold was made in 1938 and used in 1940) and mold code 18. We can only use the date code on the skirt as an earliest date, but it is probably safe to say these insulators were produced in the early 1940's. Given the rarity of the pieces, with the CD 186 and CD 186.1 only being found in the Hemingray dump, it was likely these were produced for a very short period of time. CD 186.2 examples were also reportedly found in Fort Pierce, FL. The CD 186 and CD 186.1 are considered quite rare with maybe 6-8 and 12-15 known respectively. The CD 186.2 remains scarce with less than 50 known.

Each of these styles are known to come in both an "extended" and a regular height version. The extended version has a 3/8" mold extension plate added to the base. One can see another circumferential mold line about 3/8" up from the bottom of the skirt.

Jan. 8, 1946. A. G. STEINMAYER 2,392,342

COMBINED SPARK-GAP AND INSULATOR

Filed Jan. 18, 1943



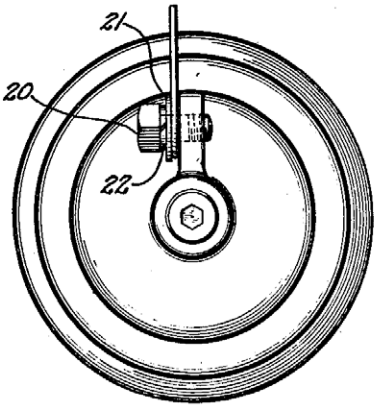


Fig. 2

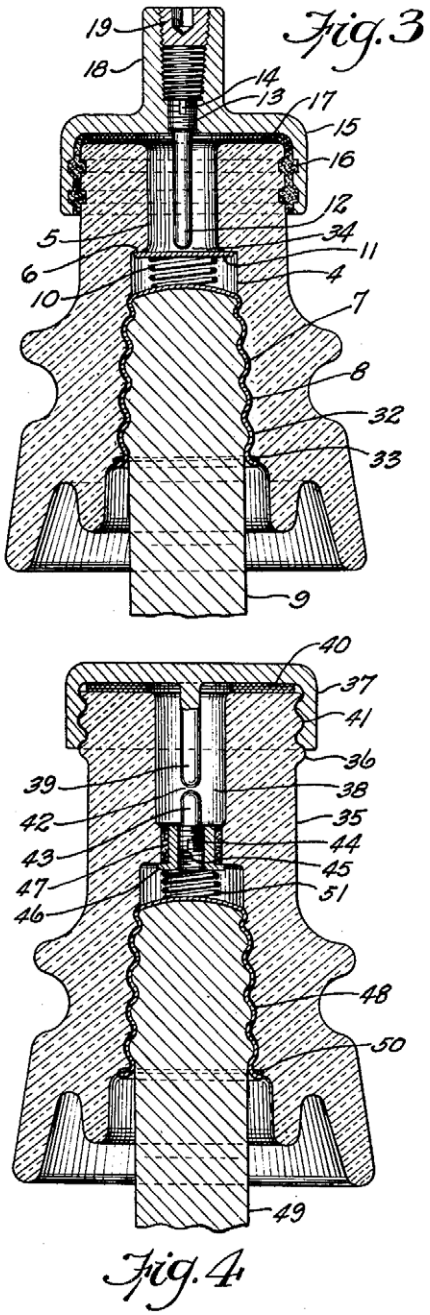


Fig. 4

INVENTOR.
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CD 186, 186.1 & 186.2 Spark Gap Insulators (Continued)

NORMAL HEIGHT STYLES (CD 186, 186.1, 186.2)

EXTENDED SKIRT STYLES (CD 186, 186.1, 186.2)

CD 186, 186.1 & 186.2 Spark Gap Insulators (Continued)

Some additional notes about each of the three styles:

- CD 186 has a slightly spiraled and tapered hole starting at 3/4" in diameter expanding to the diameter of the threads. There are four notches at the base of the threads.

- CD 186.1 has a smooth cylindrical hole about 5/8" in diameter tapering slightly for about an inch then stepping out to about 7/8" for another 1/4" to the top of the pinhole. There are four notches at the base of the threads. There is a collar near the top of the insulator and two variants are known. One with three circular rings around the top and one with a flat top. The latter is only known to come in the extended skirt version. It is interesting that the patent wording and drawings show a brass bushing that is not present on any known CD 186.1 insulators. It is possible that the four base notches in the CD 186 & CD 186.1 are to hold bushing similar to that shown in the patent that is not molded into the glass.

- CD 186.2 has a six-sided machine nut cast in the dome about 5/8" in diameter and the hole continues to the top of the threads which is fitted with a brass liner. There are no notches at the base of the threads. All known CD 186.2 styles have a brass bushing molded into the pinhole forming the bottom electrode of the arrester.

DETAIL OF THE FOUR NOTCHES AROUND THE BASE OF THE THREADS

CD 186.1 TOP DESIGN VARIANTS

There remain several questions about these:

- Has any additional hardware used with these ever been found?

- Some CD 186.2s were reported as being found in Fort Pierce, FL - do we know how they were used there?

- Bill recalls that there is a Hemingray engineering drawing of CD 186.2 which would be great to locate.

- The reason for the two height versions is not known and we would also be very interested if there is a regular CD 162 with the extended skirt feature.

If anyone has any additional information, please contact either Bob Berry (pyrex553@aol.com) or Bill Meier (bill@insulators.info).