

# Surge Protection Hall of Fame



**Donald E Raudabaugh**

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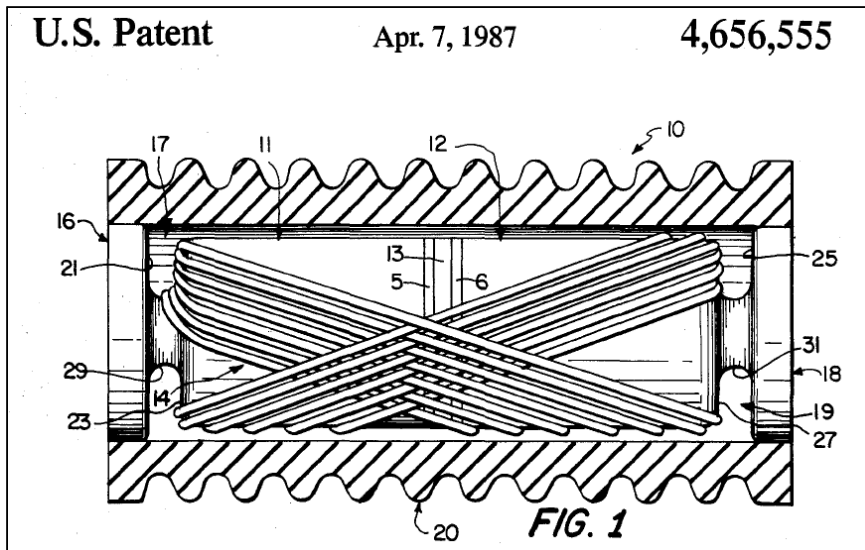
The Last Game Changer in the Arrester Industry

With the surge protection industry still in the early parts of the transition to MOV technology from gapped silicon carbide arrester technology, Donald E Raudabaugh of the Ohio Brass Company, realized that with the advent of solid state arresters, there was a much better way to make this new type of arrester a safer device. On December 14, 1984, he submitted patent application 681,800 to the US patent office, an application that would become the last game changer in the arrester industry to date.

Raudabaugh had spent much of his career working with insulators. During this work, he had become familiar with polymer and fiberglass technology. With this insulator knowhow, he was able to see how polymer and fiberglass could be used in arresters too. In this case, he conceived how to wrap a stack of MOV disks in a cost effective manner that would hold the disks together not only for its life time, but also during a



most onerous failure mode. His wrapping idea was a game changer when used in conjunction with rubber housing. Patent application 681,800 became patent 4,656,555 – 1987 and is titled “Filament Wrapped Electrical Assemblies and Method of Making Same.”



In 1986, Ohio Brass produced the world's first polymer housed surge arrester; and so the polymer housed surge arrester era began

The driving force for this new design was safety. Since the beginning of this product's history, failure modes were often associated with explosions and scattering of shards of porcelain. With

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this new design, the arrester no longer exhibited such significant failure modes. Safety has a tendency to push new concepts along faster in this modern era. Don went on to introduce the Normal Duty design in 1987, Riser Pole Arrester in 1988, Intermediate polymer housed arrester in 1991 and Station Class designs in 1993.

Within a few short years the all US manufacturers were producing this new type of arrester. By 1995, all distribution arresters being installed in the US were polymer housed.

Don was born on March 25, 1925. Don was a WWII Navy Veteran, a graduate of Case University where he received a Bachelor's of Electrical Engineering. Don started his career in 1951 directly out of college. He was first involved in power capacitor design. It was in this position, that Don submitted his first US patent application in 1956 that eventually was issued as patent 2,922,928 in 1960. When Ohio Brass went out of the capacitor business in the mid 1960's Don moved on to the arrester-insulator business where he was at first a factory engineering manager. But his skills quickly landed him a position as Director of the OB Research Center; a position where he eventually initiated the polymer housed arrester paradigm shift. In 1966 Don was issued his second patent, this time with regard to insulators. Don finished his 42 year career in 1993 as a well accomplished research engineer, the position he loved the most in his tenure at Ohio Brass. In all he has at least 5 arrester related patents in his portfolio. Don died on January 1, 2010 at the age of 84.

A coworker described Dons personality quite well in this short description of Don during a golf outing.

“As I write this, I still have a vivid memory of a golf outing in which Don and I were partners. Don, of course, golfed like he did everything else and I remember saying to him, wait until your ball stops rolling before you try and hit it, as he leaped from the cart with an iron in hand.”

Don is another one of many great Surge Protection Hero's that has enabled an industry to serve the public well for more than 150 years.....

Jonathan Woodworth  
ArresterWorks Jan 2013