

GREAT ARROW news

The Pierce-Arrow Museum Newsletter



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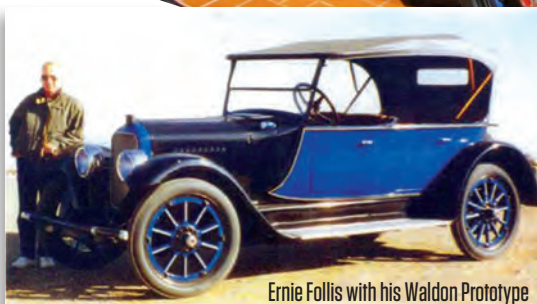
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1920 WALDON PROTOTYPE TOURING CAR



Ernie Follis with his Waldon Prototype

The Pierce-Arrow Museum at Gilmore is proud to display the one and only 1920 Waldon prototype touring car. This car was the generous gift of the late Ernest (Ernie) Follis of Norwalk, California. The car had been in the collection of Barney Pollard, a famous savior of many a rare pre-WWII automobile. His son, B.C. Pollard, eventually sold the vehicle, along with some original blueprints and correspondence regarding Colonel Waldon's association with Pierce Arrow. The prototype later ended up in the collection of Mr. Follis (*pictured with car*).

In the late teens, the Pierce-Arrow Motor Car Corporation had been relying on wartime profits to continue development of the business. Pierce only built and sold high end automobiles, but a country wide economic downturn prompted the company to seek out a possible lower cost offering in the marketplace. In December of 1919, Colonel Sidney Waldon was in negotiation with Pierce to design and produce a quality, lower cost, vehicle. Agreements, negotiations, and the actual construction of a prototype continued through 1920 and 1921.

The original design called for a V-8 engine, but the one prototype ended up with an optional four cylinder powerplant. This engine was largely a copy of a similar Hispano-Suiza engine, with the main difference being that the cylinders were a block casting of cast iron.

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Pierce-Arrow Society

PIERCE-ARROW FOUNDATION

Operating the Pierce-Arrow Museum on the Campus of the Gilmore Car Museum

August 2020

Dear Pierce-Arrow Friends:

Jane and I have certainly missed being with you since the Covid-19 Virus has changed our lifestyles so drastically.

But thankfully Dave and Diana Stevens have stepped up to provide some relief to the stir-crazy, cabin-fever suffering Pierce-Arrow Enthusiasts! Of necessity the 2020 Gathering at Gilmore will be somewhat downsized; however Jean and Larry Smothers, and Jane and I are looking forward to this year's event more than ever before.

Hopefully many of you have turned the virus lockdown into a positive by making headway with important projects. I understand that Randy Roberson had planned and was looking forward to a summer of rebuilding Kathy's flowerbeds. But for fear that a Covid Virus might fly by and infect him he wisely quarantined himself in his hobby shop working on his Model 43 restoration.

A very special "thank you" goes out to the many Pierce-Arrow Society Members who donated their prepaid annual meet fees to the museum. Needless to say these donations went a long way toward replacing the lost museum income that would have developed from the annual meet.

Speaking for the Pierce-Arrow Foundation Executive Committee, the Board of Trustees, Museum Members and Friends, we deeply appreciate your generosity. Our pledge is that we will continue to work hard to deserve your support.

Sincerely yours,

Merlin Smith, Chairman
Pierce-Arrow Foundation

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The Hispano-Suiza engine was of aluminum construction with steel cylinder liners.

An overhead cam operated two valves per cylinder, the cam being driven from the crankshaft with a vertical shaft and bevel gears top and bottom. Colonel Waldon was involved in aviation at the time, and specified a Claudel carburetor, a popular brand in aeronautical circles. It would seem that this carburetor did not perform well at some point in the life of this prototype, as it was removed and an adapter plate installed to run another brand carburetor.

The lubricating system was said to be “*somewhat novel and perhaps of doubtful utility*”. The oil drains into the flywheel enclosure, and is lifted by the ring gear on the flywheel to a reservoir above the level of the crankshaft. A rotary pump scavenges oil from this reservoir, forcing it to the engine bearings.

“Ignition is double Delco with two sets of spark plugs. The oil and water pump are driven by bevel gears across the front of the engine at crank shaft level. The crank shaft is rather expensive to make – it has three bearings and the crank arms extend to form balance weights.”

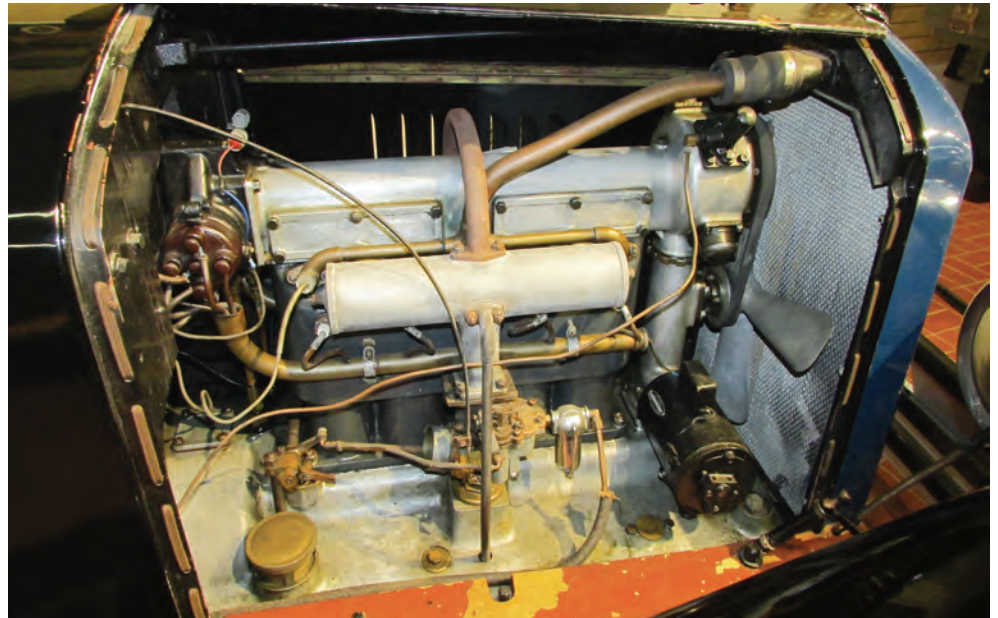
The suspension was fairly conventional, with the steering, rear hubs, and live axles similar to Pierce design. The rear suspension was copied from the Marmon automobile, with a single transverse spring, as “it is thought that this gives a short overall car with a comparatively long wheel base”.

With Pierce cars selling at the time for \$5000 and more, “it was thought by [Colonel] Waldon that this car can be made to sell in quantities of twenty thousand a year at about Twenty-Five Hundred Dollars with Cadillac quality of workmanship”.

Cadillac quality was apparently not acceptable for a Pierce-Arrow, as the project was discontinued in mid-1922. The prototype automob-

ile, all plans, patents (if any) and rights to the design all reverted to Colonel Waldon, per written contract with Pierce.

Note: Much of the above information, including the quotes, was taken from an internal Pierce memo dated December 12th, 1919, from David Fergusson ~ Pierce Chief Engineer ~ to Mr. G. W. Mixer.



This engine design was largely a copy of a Hispano-Suiza WWI aircraft engine. The Hisso had a solid aluminum cylinder block, a first for the automobile industry. A 2-piece crankcase was split horizontally on the center line of the crankshaft. The 4-cylinder head and overhead cam was a single aluminum casting. Waldon admired and copied this technology”



Waldon Spare Tire Mounting

The method of mounting and securing the rear mounted spare tire on the prototype Waldon automobile is of interest.

A central hub can be cranked one way or the other, which then extends or retracts the three arms. These arms each have fittings on their ends which mesh with the wheel rim and locks rim in place.

Looking closely at the picture, one can see that accommodation was made for two spare rims and tires, though only one is now on car.

Who WAS COLONEL SIDNEY D. WALDON?

Sidney Dunn Waldon was born in London, England on January 29th, 1873. He was educated in London and South Kensington schools, and came to the United States in 1892.

Little is known about his life at the turn of the century. However, he appears quite early in the history of the Packard Motor Company, becoming “one of the first people involved with”, and soon Vice-President, of that company. He later became director of engineering for the Cadillac Motor Company, though some sources claim he was also titled as a Vice-President. As his career progressed, he was heavily involved in Detroit high society. He would hold memberships in the Detroit Athletic Club, the Grosse Pointe Country Club, and the Bloomfield Hills Country Club.

During the early 1900's Waldon became enamored with aviation. He was friends with, and flew with, the Wright Brothers. He was responsible for having a landing field established near Mt. Clemens, which is now known as Selfridge Air Force Base (named in honor of 1st Lieutenant Thomas E. Selfridge, the first person to die in the crash of a powered aircraft, with Orville Wright at the controls).

When World War I began, Waldon enlisted, and Colonel Waldon was instrumental in helping to build the United States Air Force as we now know it. Though the U.S. War Department had created an aviation branch of the U.S. Army in August of 1907, it was still in a developmental stage when The War to End All Wars broke out. During President Harding's term (1921-1923) he was selected to serve on a sub-committee of the National Advisory Committee for Aeronautics, which was later to become the National Aeronautics and Space Administration (NASA).

Waldon's brief association with The Pierce-Arrow Motor Car Company began in the early 1920's, and his association with automobiles continued in 1924 when he was appointed as Chief Planner for the Detroit Rapid Transit Commission. This commission spearheaded a plan for rapid transit and an excellent high-

way system, which Waldon advocate for the rest of his life. He lived at 160 Longfellow during the teens and twenties, a house built in 1915 that is located in what is now the Boston-Edison Historic District of Detroit.

In 1927, he wished to move out of the city, and he purchased 840 acres of land in Clarkson, Michigan. He then built a home, which he called Pine Knob, atop the highest point in southeastern Michigan at a 1201 feet elevation. The house itself was a nineteen room English Manor style structure, which is now used as a banquet facility for weddings and other events. The Waldon's would live there until 1941, when he and his wife moved to his brother-in-laws estate outside of Hamilton, Ohio. Gordon S. Rentschler, chairman of First National City Bank, owned the estate.

Colonel Waldon died January 20th, 1945, at the age of 72. His funeral was held at the Rentschler Farm, and honorary pallbearers included Orville Wright and Edward Deeds. Mr. Deeds was a prominent businessman in the Dayton, Ohio area, at one time President of the National

Cash Register Company, and co-founder of the Dayton Engineering Laboratories Company (DELCO). He, too, had been close friends with the Wright Brothers, and along with Colonel Waldon, had a hand in military aircraft production during WWI.



Col. Sidney Dunn Waldon 1873-1945



Standing in front of a Stout trimotor airplane during the Air Maneuvers at Wright Field are, facing left to right: Edith W. Deeds, Edward A. Deeds, Colonel Sidney D. Waldon, Helen R. Waldon, and Orville Wright. * Wright State University Libraries

Did Colonel Waldon Invent the Checkered Flag? Quite Possibly!



Fred J. Wagner of New York, known as “Wag”, flagged the Vanderbilt Cup and almost all of the big automobile events, including the Crown Point races.

There’s some debate about the origins of the checkered flag as a car race ending signal. One theory is that, after races the participants were hungry, so they ate at picnic tables with checkered tablecloths. Some discussion states that a checkered tablecloth was waved in the Midwest to signal that horse racing should end, and the food was ready.

Another theory suggests that a checkered flag was easy to see through the dust of a dirt race track, so that’s why the block pattern flags were used.

The first photographic proof of a checkered flag signaling the end of a car race is a picture of the winner of the 1906 Vanderbilt Cup Race, Louis Wagner, driving a Darracq V-8. In the picture, official race starter Fred Wagner is clearly seen waving the signal for the winning driver. The #10 winning car was driven at an average of 63 miles per hour on the 297.1 mile course, and Mr. Wagner crossed the finish line 3 minutes and 18 seconds ahead of the second place finisher, Vincenzo Lancia in a FIAT.

A well accepted theory is that during the 1906 Glidden Tour between Buffalo, New York and Bretton Woods, New Hampshire, our Colonel Sidney Waldon was put in charge of dividing the course into sections. Each section was about 25 miles long, and at the end of each section, the driver of the automobile would need to “check in” at the “checker” station to make sure all rules were being followed, and to account for the time on the course.

Colonel Waldon specified that these stations should be clearly marked with a “checker flag”. As stated in an August 1906 Motor Magazine, if a car “reached [a checkpoint] ahead of time [then] the cars laid up at the road side to await their time to pass the checker whose stand was marked by a checkered flag”.

In any case, the checkered flag is now an iconic part of any car race, and it can be easily argued that our Colonel Waldon was its originator.



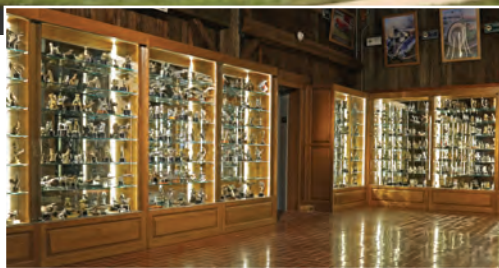
1906 Glidden Tour “Check Stop” with a checkered flag



...another 1906 Glidden Tour “Check Stop”



Fred Wagner waving the Checkered Flag for Louis Wagner driving a Darracq V-8 for the 1906 Vanderbilt Cup win



PARTNER MUSEUM AT THE GILMORE – CCCA MUSEUM

The CCCA Museum at the Gilmore displays only Full Classic® automobiles. Full Classics® are defined by the Classic Car Club of America as cars manufactured from 1915 to 1948 which “are distinguished for their representative fine design, high engineering standards and superior workmanship”. The CCCA Museum is “Dedicated to the discovery, procurement and preservation of automobilia, notable automobiles, artifacts and documents from the Classic era.”

The idea for establishing the museum was first discussed in 1982 by CCCA then-President Richard Gold, and is now comprised of two buildings, with the original building dedicated in June of 1987. The “Barrett Barn” (initial funding was supplied by Thomas W. Barrett, III) was an 1890-built historic barn located not far from the Gilmore property. The barn was purchased, dismantled, moved, and reconstructed in the current location.

The Erle Heath Barn is the second CCCA Museum building, honoring Dr. Erle M. Heath, who was called a “CARavaner extraordinaire”, as he loved attending the numerous tours put on by the club. The late Dick and Linda Kughn, active supporters of the museum, also donated a substantial sum of money for this barn. Numerous Classics are displayed, along with a mascot collection of over 700 emblems donated in 1996 by Marvin Tamaroff. The mascot collection is available for viewing online at <http://cccamuseum.org/Explore/MascotViewer>

The museum also has an extensive library and research center, dedicated of course to Classic marques, including the original Noel Thompson Library and the late Beverly Rae Kimes Automotive Library. In addition, the files of the custom houses of Derham and Judkins, The Cole Motor Company, and the papers of Ray Dietrich, are contained in this collection.

We are proud to have such a fine museum as a Partner at Gilmore, and proud that the CCCA recognizes all Pierce-Arrows from 1915 to 1938 as Full Classics®. For more information visit www.cccamuseum.org

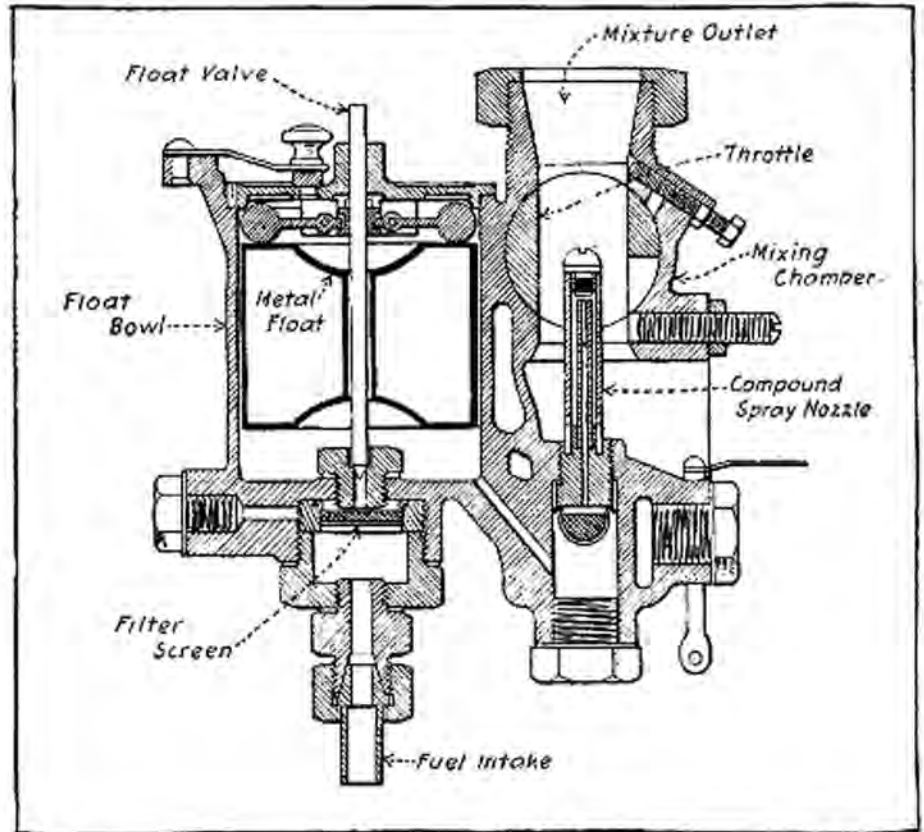
The Claudel Carburetor

Colonel Sidney Waldon was heavily involved with aviation, so it's no surprise that in the design of the prototype Waldon automobile he would turn to aviation technology for some design elements.

The Claudel Carburetor was used extensively in Europe, both in aviation and automobile racing, and was chosen by Colonel Waldon for his new engine.

Unfortunately, it appears that a more modern carburetor has been installed on the prototype in our museum, but the story of Claudel is of interest.

From the May 15, 1920 issue of Aviation and Aeronautical Engineering (now Aviation Week and Space Technology):



"The Claudel carburetor, widely used in Europe for twenty years, is now made in America by the Claudel Carburetor Co., Long Island City, N.Y. This highly-perfected, plain-tube mixing device was designed by Charles Henri Claudel, the pioneer in the development of the plain-tube type of carburetor, who is recognized as the foremost European authority on carburetion.

Records made by the Claudel carburetor in European racing before the war were both numerous and comprehensive, ninety-three first prizes being captured in 1913, in addition to the Indianapolis race and the breaking of all world's records on the Brooklands track in England. As a result, Claudel carburetors were employed extensively on the foremost Allied aviation engines from the beginning of the war in 1914 until the end. Among these were the Rolls-Royce, Sunbeam, Peugeot, Salmson, Hispano-Suiza and Renault.

Claudel carburetors made the first round trip across the Atlantic from England to America on the Sunbeam engines of the British dirigible, R-34. They were also used on the Rolls-Royce engines of the Vickers-Vimy airplane which was the first plane to make a non stop flight across the Atlantic. The fact that this craft completed its long flight with one-third of its fuel unused is a striking commentary on the fuel-saving ability of the Claudel.

Another record held by the Claudel carburetor is that for power and speed established by Sadi Lecointe, the famous French aviator who set a new world's speed record of 232 miles per hour.

Americanized in Design

The engineers of the Claudel Carburetor Co. have Americanized the European model of the Claudel to meet the particular requirements of engineering needs in this country. They have added several features demanded by the American motorist, such as a quick starting device and rapid acceleration with a cold engine.

The Claudel Carburetor

Early carbureting devices employed a spring-controlled air valve in an effort to secure the proper mixture balance throughout a wide range of engine speeds. In 1903 Charles Henri Claudel, of Paris, France, patented the first tube automatic compensating carburetor without the use of moving parts. His early principal of breaking up the gasoline by a swift current of air, making an emulsion inside the jet itself before delivery to the carburetor proper was original with him and has since been widely copied. The modern Claudel retains the same principal, refined and improved to vaporize the heavy fuel of today."

New Tax Law Triggers Special Opportunity for Museum Gifts



Please join us in
PROJECT 2020

**Take fast advantage of short-term tax law changes
and raise funds for the Pierce-Arrow Museum
with tax deductible contributions.**

It's an easy way to support the Museum during a challenging time
for revenue and admissions caused by the Pandemic.

The new CARES ACT (Coronavirus Aid, Relief and Economic Security) was
signed into law on March 27, 2020.

It includes two special opportunities for charitable giving:

1. Even if you *do not* itemize deductions, all taxpayers are now
allowed to deduct up to \$300 in charitable contributions
during the 2020 calendar year.
2. For those who do itemize deductions, the new law raises
the charitable deduction limitation from 60 percent to 100
percent of adjusted gross income during 2020.

Pierce-Arrow Museum *at Gilmore*

*To discuss ongoing
gift planning for
the Museum,
please contact:*

DAVE STEVENS
Museum Director
Pierce-Arrow Foundation
(231) 740-3610
dstevens3d@msn.com

OR

MERLIN SMITH
Chairman,
Pierce-Arrow Foundation
(318) 549-8122
merlin.smith.la@gmail.com

*If you are planning on taking advantage of this opportunity to support the
Pierce-Arrow Museum at Gilmore, please send your check payable to:*

PIERCE-ARROW FOUNDATION
c/o Stu Blair, Treasurer
321 Miami Valley Drive • Loveland, OH 45140

As always, please consult your own tax advisor for advice. The Pierce-Arrow Foundation is a 501(c)(3) tax exempt educational organization under U.S. tax law.