**ADLER** / *Germany 1900–1940*
This famous factory produced bicycles, typewriters, motorcycles and excellent cars. In pre-Great War days, Adler built cars from 1032cc to 9081cc with De Dion and — from 1902 onwards — own-make two- and four-cylinder sv engines. Driven by Erwin and Otto Kleyer, sons of Heinrich Kleyer, founder of Adler, and by Alfred Theves (founder of the ATE piston-ring works), these cars won many sporting events. Popular models of the 1920s, when Karl Irion drove many Adlers in races, were 2298cc, 1550cc and 4700cc four-cylinder and 2580cc six-cylinder cars. Gropius and Neuss coachwork was seen on many 'Standard' models, built between 1927 and 1934. They had 2916cc six-cylinder and 3887cc eight-cylinder engines. The front-wheel-drive Trumpf models of the 1930s with 995cc (Trumpf-Junior), 1494cc and 1645cc four-cylinder sv engines, gained many successes in races, including the Le Mans 24 hours. Among rear-driven Adler cars were the 1943cc 'Favorit', the 2916cc six-cylinder 'Diplomat' (with 65 hp at 3800 rpm) and the 1910cc four-cylinder and 2494cc six-cylinder models with neat, partially-streamlined bodywork by Ambi-Budd and Karmann, built until the Second World War. Adler employed some superb designers including Rumpler and Röhr, but only built motorcycles after World War Two.


1909 Adler landaulette

**ADRIA** / *USA 1921–1922*
The Adria was an assembled car with a four-cylinder Supreme engine. Promotion was unsuccessful, although prototypes were built.

**ADVANCE** / *England 1906–1908*
Northampton motorcycle makers who also offered a 6 hp tricar.

**AEM** / *France 1924–1927*
Electric cars made in Neuilly, near Paris, by the Société d'Application Electro-Mécanique. Most of them were used as delivery vans. Top speed was 25–30 km/h (15–19 mph) and range around 80–100 km (50–60 miles). Some light cars were made and sold under the name of Electrocyclette.

**AER** / *France 1930*
A one-time subsidiary of BNC, the AER marque offered two cars in the American idiom, a sv 1991cc six-cylinder with CIME engine and an American sv straight-eight of 4241cc. Breaking with tradition, suspension was by a pneumatic device which quickly proved unreliable. These cars were later reissued with conventional suspension, under the name 'Aigle'.

**AERO** / *Czechoslovakia 1929–1939*
Designed by Bretislav Novotný, the Aero was made by a well-known aircraft and car-body factory, owned by Dr Kabeš. It originally had a 499cc single-cylinder two-stroke engine with water cooling. The next model was a 660cc vertical twin, followed by a 998cc twin-cylinder version. Designed by Ing. Bašek, the 1934 Aero was a front-wheel-drive design with a similar engine and a very sporting and comfortable four-seater body. The last model — also fwd — had a 1997cc four-cylinder 50 PS two-stroke engine. Famous drivers like Turek, Formanek, Hodač, Pohl, Michl, Holoubek, and Uher won many events in Aero cars.

**AEROCAR** / *USA 1905–1908*
Henry Ford's former backer, coal merchant Alexander Malcomson, was behind this short-lived air-cooled 24 hp four-cylinder luxury car which sold for $2800.

**AERO CAR** / *England 1919–1920*
A 5/7 hp Blackburne flat-twin engine powered this cyclecar with a Sturmey Archer gearbox.

**AERO CAR** / *USA 1921*
Using a two-cycle engine to drive a propeller, this tiny car of only 60 inches wheelbase was to have sold for $160. One prototype was made.

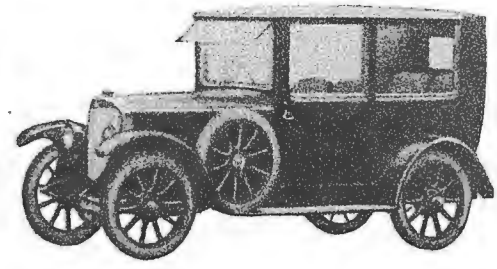
**AEROCAR** / *USA 1948 to date*
Moulton P. Taylor's four-passenger Aerocar can be converted into a light aeroplane in five minutes by attaching wings and a pusher propeller. So far, seven Aerocars have been built.

**AEROFORD** / *England 1920–1925*
The Aeroford was one of many attempts to disguise the ubiquitous Ford Model T, a special bonnet and different grille being the main ingredients of the deception.

**AERTS** / *Holland 1899*
Built a handful of cars at Dongen.

**AFA** / *Spain 1943–1944*
A 5 cv cabriolet built in Barcelona.

**AGA** / *Germany 1919–1929*
Once a very big manufacturer, who by 1922 was building 1000 cars a month. Aga was then part of the Stinnes group of companies, making a 1420cc four-cylinder car, which was also used as a taxicab. Via Stinnes, the factory was also connected with Dinos and even Rabag (licence-built Bugatti), but when Stinnes died in 1924, all these factories ran into difficulties. After 1926, production was on a limited scale. A sports-racing version driven by Willy Loge had a 1490cc engine and won many races. Scholl, Phillip and Pagani drove Aga cars in the 1924 Targa-Florio in Sicily, Scholl finishing 14th, behind Alfred Neubauer in a Mercedes.


1925 AGA saloon

**AGERON** / *France 1910–1914*
Ageron of Lyon built friction-drive one-, two- and four-cylinder light cars of 6, 8 and 10hp.

**AGR** / *England 1911–1915*
Ariel & General Repairs (the London branch of Ariel Cars) of Brixton, offered a 10/12 hp four-cylinder model — apparently based on the French Hurtu, for which they were agents — in 1913, at a chassis price of £255.

**AILLOUD** / *France 1898*
Claudius Ailloud, of St Foy-les-Lyon, built this twin-cylinder air-cooled voiturette.

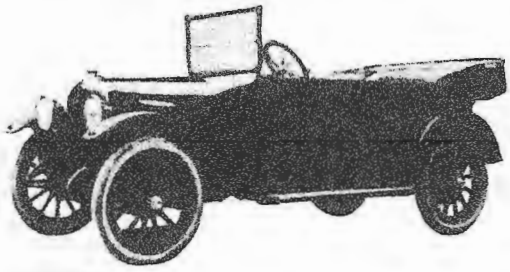
air-cooled 1608cc in-line fours and a 1575cc V-4. Four separate cylinders in line powered the 1770cc model 'E'. Designed by racing driver Karl Slevogt, the model 'B' had an ohv 960cc four-cylinder engine: another of his superb creations had an ohv 2040cc engine. Other Apollos had sv four-cylinder engines of up to 3440cc. Some models after 1920 had wishbone suspension; the last Apollo cars had ohv 1200cc four-cylinder engines or sv 1551cc Steudel four-cylinder power units. Hugo Ruppe, son of the factory founder, was a famous two-stroke engine designer; he built the air-cooled MAF cars, which in 1920 became part of Apollo. Slevogt raced Apollo cars with streamlined Jaray bodies during the mid-1920s.

**APOLLO** / *USA 1962–1964*
The Apollo was a well-engineered, fast sports/personal car with Italian hand-made two-seater aluminium convertible or fastback bodywork and a V-6 or V-8 Buick engine. Ninety were produced before it was renamed the Vetta Ventura.

**APOLLO** / *England 1971–1972*
The Can-Am racer-inspired Apollo was the brainchild of Allen Pearce. Originally intended purely for his own use, this dramatic-looking VW-based glass-fibre sports car very nearly entered serious production in 1972.

**APPERSON** / *USA 1902–1926*
After the Apperson brothers broke away from Haynes-Apperson (q.v.) they continued for a while with a front-mounted flat-twin engine, then used a horizontal four. Vertical fours were the order of the day by 1904, when 24 hp and 40 hp models were offered. In 1906 a 95 hp four was catalogued at $10,500, and a year later came the first of the famous Jackrabbit speedsters, a 60 hp selling at $5000. For a time, the entire range was known as the 'Jack Rabbit': a 32·4 hp four and a 33·7 hp six were listed in 1913; a 33·8 hp 90 degree V-8 of 5502cc appeared during 1914. In 1916, the 'Roadaplane' six and eights were announced. A sporty tourer designed by Conover T. Silver, the 'Silver-Apperson', was launched in 1917: after 1919 it was known as the 'Anniversary'. In 1923 a proprietary six of 3243cc appeared, and a Lycoming eight was also available from 1924. By now, both Apperson and Haynes were losing sales, but a rumoured re-marriage came to nothing, and the introduction of four-wheel brakes on the 1926 Appersons failed to halt the company's end.

**APPLE** / *USA 1917–1918*
The $1150 Apple 8 from Dayton, Ohio, was, agents were assured, 'a car which you can sell!!!' Unfortunately, the public did not buy!



1917/18 Apple 8

1913 Arden four-seater tourer

**AQUILA-ITALIANA** / *Italy 1906–1914*
Designed by Guilio Cesare Cappa, these were big four- and six-cylinder cars with ioe engines of advanced design. After 1908 there was an interruption in manufacture, but new models appeared late in 1911. These had 4192cc six-cylinder engines and proved successful in many races. Among their drivers were Meo Costantini, who afterwards joined Bugatti at Molsheim, where he became a racing driver and eventually Chef d'Equipe, and Carlo Masetti, elder brother of Count Giulio Masetti.

**ARAB** / *England 1926–1928*
That enigmatic genius Reid Railton was responsible for the design of the Arab, a sporting 2-litre which appeared in 1926. The engine was an ohc four-cylinder, with leaf-valve springs as on Parry Thomas's Leyland Eight, a reminder that Railton had worked for Thomas. But after the Welshman's death attempting to break the World Land Speed Record in 1927, Railton lost heart in the Arab project. A pity, for the two-seater was good for 80 mph while the more potent Super Sports was able to touch 90 mph.

**ARBEE** / *England 1904*
A 6 hp two-speeded car with 'slow running engine' — hardly a compelling sales gimmick!

**ARDEN** / *England 1912–1916*
Starting life as a crudely finished vee-twin JAP-engined cyclecar with wooden chassis, the Arden grew up into a well-built four-cylinder 1096cc Alpha-engined light car, eventually with full four-seater coachwork.

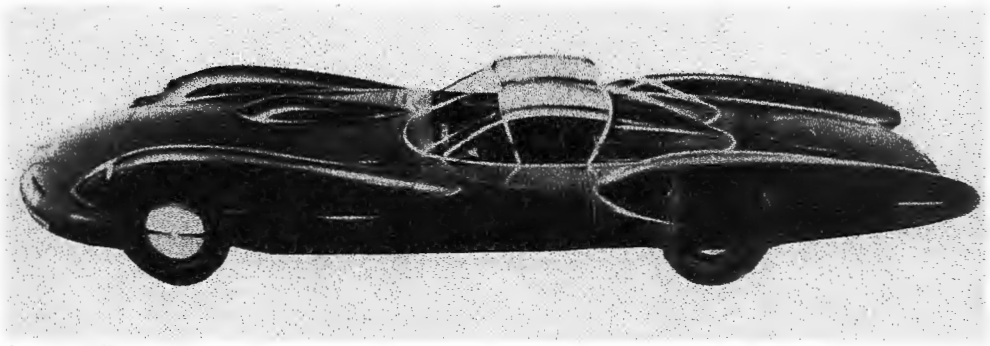
**L'ARDENNAIS** / *France 1901–c1903*
This voiturette, from Rethel (Ardennes) came with interchangeable water- and air-cooled cylinders, for summer and winter use.

**ARDSLEY** / *USA 1905–1906*
W. S. Howard, who had built cars under his own name, designed this 30/35 hp four.

1916 Argo

**ARGO** / *USA 1915–1916*
A short-lived attempt to rival Ford at producing 'a motor car for the millions' the 1916 Argo, from Jackson, Michigan, sold for $405 in two-seater form. The firm originally made a cyclecar—the four-cylinder 'Motorvique'—based on the Briscoes' French-built Ajax.

**ARGONAUT** / *USA 1959–1963*
The first name applied to this proposed behemoth was the 'Argonaut State Limousine', but the name was soon changed to the 'Argonaut Motor Machine', the car being planned to be the finest and most luxurious in the world. The prototype of the Argonaut was mounted on a Chrysler chassis. Prices quoted ranged from $26,800 to $36,000 and a variety of stainless and special steels were planned for the car's manufacture. A 12-cylinder ohc aluminium air-cooled engine developing some 1010 bhp was designed and all Argonauts were to have carried a four-year guarantee. In its catalogue, Argonaut claimed two of its models, the 'Smoke' and the 'Raceway', had a maximum speed of 240 miles per hour. One Argonaut is known to have reached private hands.



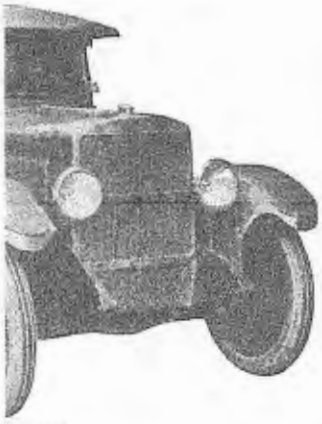
Argonaut State Limousine

**MPLEX, AMPLEX**

: 50 hp two-stroke engine erican Simplex—'A motor car m Mishawaka, Indiana. From as shortened to 'Amplex'. The y tonneau sold for $4300.

**EAM CAR** / *USA 1924–1931*
ed by Thomas Derr, catered r Stanley owners and most of perations were limited to con- sed Hudson chassis and bodies.

**EAMER** / *USA 1922–1924*
ed with Thomas Derr's Amer- the American Steamer was a merican Steam Truck Co. of as typical of the renaissance of tried to get on the American et in the early 1920s. Featuring compound double-acting mo- n Steamer line offered a touring upé and sedan. At least 16 cars ave been built and possibly as have left the factory.



eamer

**NDERSLUNG**

ssic marques of its day, the rslung from Indianapolis was f Harry Stutz. An underslung ; 41 × 4½in wheels gave the erslung its distinctive ap- ranged from $1250 to $4500, ey engines of 40 hp and 50 hp 1905 to 1908 the car was also conventional chassis as the ist'.

*)10–1915*
l 'gentleman's roadster' and a ourer were the initial products ro, Kentucky company.

*903–1905*
AB Motorfabriken i Göteborg engines. In the first years of the orted French Richard-Brasier oduction of cars based on this posed, but the plans failed. In odel was shown, using twin- led engines bought from the German Fafnir company. These tended to overheat and were soon changed to water-cooling. Only engines were imported, the rest of the car being manufactured in Sweden. About 10 cars were built.

**AMHERST** / *Canada 1912*
The 'Two-in-One' Amherst 40 could be converted into a truck by removing the rear seats. Only nine were completed.

Amilcar Pegase sports, 1937 Le Mans

**AMILCAR** / *France 1921–1939*
This well-known French marque started in 1921 as a small cyclecar, designed by Jules Salomon and Edmond Moyet, and bore a close resemblance to the pre-war Le Zèbre. The first model was the 903cc CC, available in a sport version, the CS, and the family C4. The sv engine had splash lubrication, and there was a three-speed gearbox. But the most famous of all was the CGS 'Grand Sport' of 1924 with a sv engine of 1074cc and four-wheel brakes; it evolved into the more sporty CGSS 'Grand Sport Surbaissé'. These were made under licence as Pluto in Germany and Grofri in Austria. In the mid-1920s, the marque entered proper motor racing, building a batch of supercharged dohc 1100cc six-cylinder cars that used a roller bearing crankshaft in the full racing version, but were also available with plain bearings. Amilcar also built a light touring car, the M-type, with a sv 1200cc engine, launched in 1928, followed by M2, M3 and M4 versions. They also made a straight-eight in 1928, with an ohc 2-litre engine. This C8 proved unreliable and expensive and disappeared very quickly. In the late 1930s, Amilcar introduced two new models, the 14 cv with a four-cylinder Delahaye engine and the Compound. The latter was made when Amilcar was taken over by Hotchkiss. Very advanced in design, the front-wheel-drive Compound featured a monocoque frame made out of light alloy and independent suspension all round. The engine was an ohv four-cylinder of 1185cc. Production was not resumed after World War Two.

**AMIOT (AMIOT-PENEAU)**
*France 1897–1902*
A front-wheel-drive power-pack for converting horse-carriages into motor cars, the Amiot, from Asnières, originally had a 6 hp Cyclope engine: an electric version was also available.

**AMITRON** / *USA 1967*
Powered by two lithium-nickel fluoride batteries, the Amitron was a three-passenger vehicle produced by American Motors and Gulton Industries. Capable of travelling 150 miles at 50 mph on a single charge, the Energy Regeneration Brake system automatically switched the motors to generators, which recharged the batteries and increased the range.

**AMOR** / *Germany 1924–1925*
Another small car built in limited numbers. It had a 16 hp four-cylinder proprietary engine.

**AMPERE** / *France 1906–1909*
The Ampère, built at Billancourt (Seine), had a 10/16 hp four-cylinder engine driving through an electric clutch ('variation of speed by electric transmission, with neither dynamo nor accumulators').

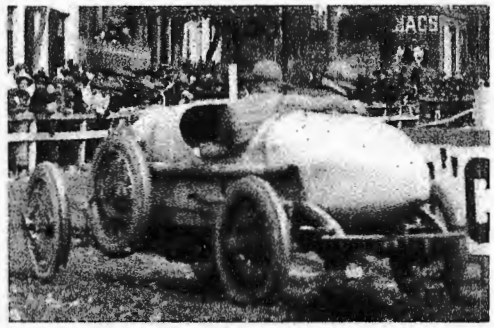
**AMPHICAR** / *Germany 1961–1965*
Designed by Hans Trippel, who had produced amphibian cars at the Bugatti factory at Molsheim during the War, the Amphicar—built by the Quandt Group at Lübeck but mainly at Berlin-Borsigwalde—had an English 1147cc Triumph four-cylinder engine with 38 hp at 4750 rpm. Most cars were sold in the USA. Total production was about 2800 units.

**AMX** / *Italy 1969–1972*
Made at the former Bizzarini factory at Turin, the Italian-built AMX was another Bizzarini design and contained many parts made by the American Motor Corporation, which had taken over the small Bizzarini works. Ital Design supplied the bodywork for the mid-engined car, which had a 6383cc AMV V-8 engine developing 345 PS (SAE) at 5100 rpm.

**ANADOL** / *Turkey 1966 to date*
Turkey's first production car, the Reliant/Ogle styled Anadol is built in Istanbul, and powered by Ford—currently 1300cc and 1600cc.

**ANAHUAC** / *USA 1922*
Patterned on a contemporary Polish car, the Anahuac was to have been marketed in Mexico by a Mexican concern. Wheelbase was 115 inches and only four units were completed by the builder, Frontenac Motor Corp. of Indianapolis, Indiana.

**ANASAGASTI** / *Argentina 1912–1914*
Horacio Anasagasti of Buenos Aires is credited with building the first Argentinian car, a 15 hp Ballot-engined vehicle. In 1912–13 he came to Europe to prove his designs in competition, entering a team for the 1912 Tour de France and a Picker-engined racer for the 1913 Coupe de l'Auto. He returned to Argentina and is said to have built about 50 touring Anasagastis.



1913 Coupe de l'Auto Anasagasti