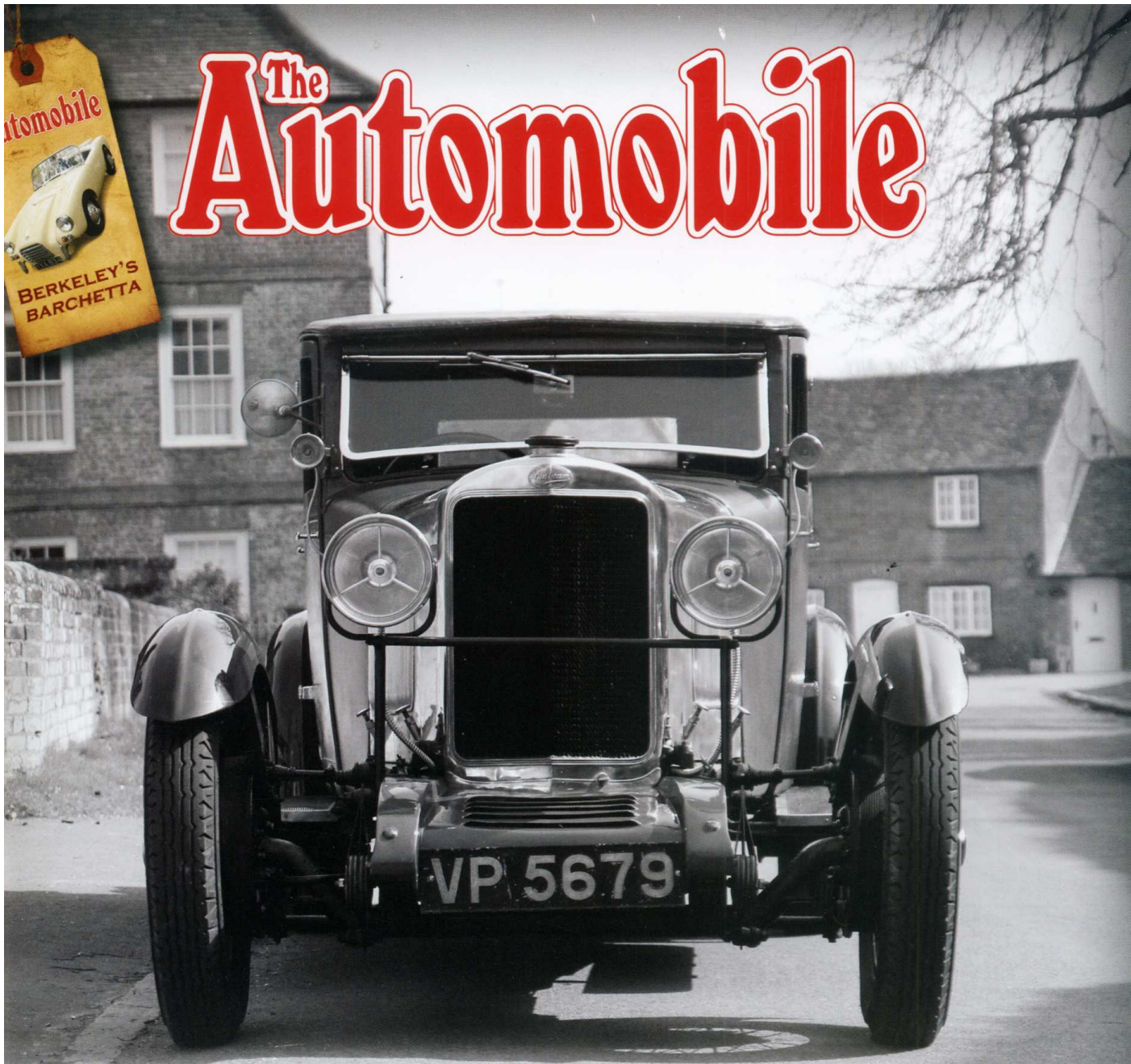


The Automobile



Sunbeam Twin Cam A rare Super Sports saloon



The Rollo
Cyclecar



Auto-biography:
the Earl of March



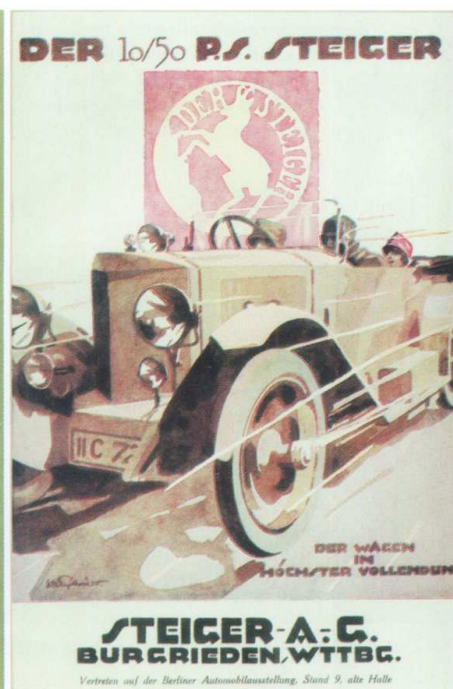
The short flight
of the Steiger

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Steiger Walter Kaufmann and Hans Mensch tackle the Klausen Pass, Switzerland, in their overhead cam Steiger on 29th July, 1923, where they finished second in class. Stefan Ittner tells the little-known story of this manufacturer, beginning on page 55



From textiles to Targa Florio

The short flight of the Steiger



Stefan Ittner tells the little-known story of this small German manufacturer which used WW1 aircraft repair as a springboard to car production

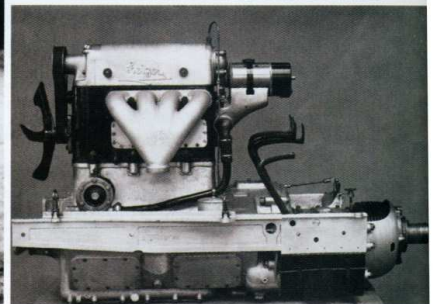
Two out of 2000. That's how many specimens survive of one of the most remarkable German marques of the Vintage era. This might explain why these cars seem to be all but forgotten. Yet the Steiger automobile was exquisitely engineered. It proved successful as a competition car, while being the vehicle of choice for many a European sportsman of the early 1920s.

Humble origins, high ambitions: Genesis of the marque

Walther Steiger's venture into automobile manufacturing was prompted by a rather unusual earlier business history. A Swiss family, the Steigers made a fortune in the textile

business during the second half of the 19th century. Not surprisingly, most of the founder's offspring entered the family firm, among them Walther (1881-1943), who joined after being trained in chemistry.

Since 1868 the family had operated, among others, a textile factory in the southern German city of Ulm. In 1907 Walther set up his own dyeing and bleaching works in Burgrieden, a small rural town nearby. The new venture was soon employing a 300-strong workforce, but all plans came to a halt with the beginning of the Great War in 1914. Steiger's factory was sequestered by the *Heeresverwaltung* (military administration) to repair the wings and airframes of fighter aircraft as these were then still largely fabric-covered. The military



Above left Paul Henze (third from right) looks pleased with an engine test **Top right** Walther Steiger (1881-1943) **Above right** Exhaust side of an early Steiger engine

authorities further expanded the factory's aircraft repair facilities by supplying the large number of machines, tooling and skilled personnel required for the manufacture of ammunition shells as well as for aero engine repair work and related machining activities. During WWI, Steiger employed up to 800 workers and climbed a steep learning curve from dye works to high-performance engineering.

Walther Steiger may have been a chemist by education, but he was a tinkerer by inclination, and blessed with a vivid imagination. Said to have kept a drawing board in his bedroom, he filed a number of engineering patents, mostly dealing with engines. Despite his fascination for everything technical, he lacked sufficient experience to run an engineering facility under wartime circumstances. For this reason he soon received help to take care of developments in the Burgrieden factory. For once the *Heeresverwaltung* acted wisely and sent the gifted and ambitious engineer Paul Henze to join Steiger in 1916, who went on to become the undisputed mastermind behind the company's engineering work.

Paul Henze was one of those thoroughbred engineers who really deserves a full-length biography of his own. Connected for most of his professional life with the automobile industry, he never ran a factory under his own name, acting instead as chief engineer for a wide array of manufacturers. A notoriously difficult character but a versatile professional, Henze (1880-1966) began his colourful engineering career with Cudell in Aachen (Aix-la-Chapelle), then worked for Imperia in Liège during that firm's founding years. He later designed a 1.5-litre car for Simson before moving on to RAF in Reichenberg, an upper-class automobile manufacturer subsequently taken over by Laurin & Klement. In 1913 he designed a Hispano-Alfonso-derived engine for the elusive Abadal marque before moving on to Steiger in 1916.

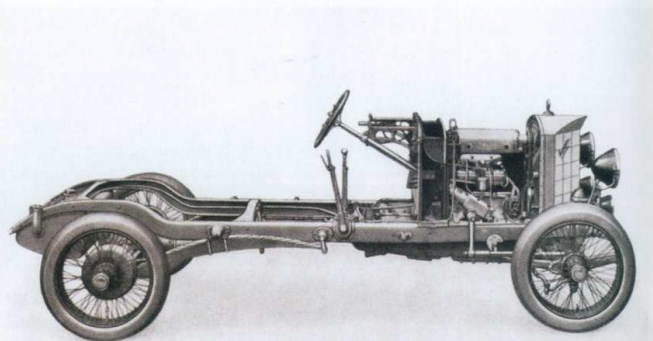
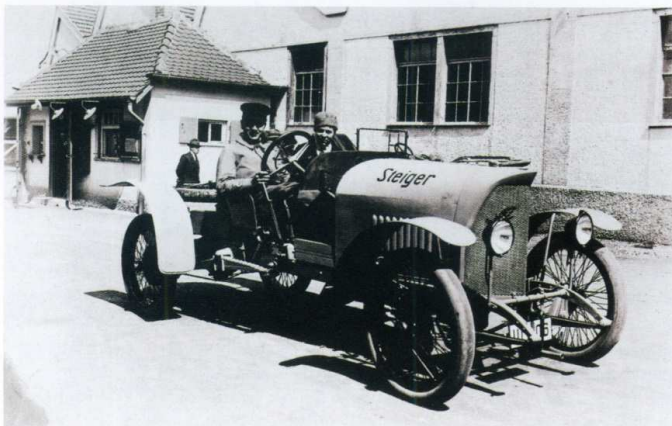
Later entries in Henze's *curriculum vitae* include another job with Simson (where he designed the fabulous two-litre twin cam Supra, a little jewel), and from 1927 he acted as chief designer for Selve before moving along to NAG in Berlin. His marvellous Type 218 4.5-litre V-8 paired with front-wheel drive – preceding

Citroën's ill-fated 22CV by three years – may have been an engineer's delight but didn't exactly fill the needs of depression-plagued motorists of the time. Walther Steiger persuaded Henze to join Martini in Switzerland in the early 1930s, but ambitious plans to build an advanced front-wheel-drive light car did not materialise.

Although Steiger and Henze were kept busy with the aircraft repair facility in 1916, they had the foresight to plan ahead in the knowledge that yet another conversion would be required at the end of hostilities. Returning to textiles seemed out of the question. Lured by all things mechanical, they evaluated the prospect of building heavy tractors. They even built a prototype, but Henze's heart already belonged to the motor car. Bravely, they decided to design and build a high quality automobile for a market that was yet to emerge. Even in retrospect, this has to be considered an ambitious move.

Conversion to automobile manufacture was of course quite commonplace following World War One. Other firms, considering the fragile post-war economic situation, turned to cyclecars, others again wisely moved to

Left Walther Steiger, his wife Maria beside him, tests an early prototype **Right** Cantilever rear springs but no front brakes on this early Steiger chassis



motorcycles and proper light cars (BMW, Citroën), but an optimistic few tried their luck with luxurious or extremely advanced cars. However, not even an arch-optimist would expect a new, expensive car to be built in a former dye works in rural Germany.

Engineering and manufacturing expertise was limited to a few years' wartime experience; everything else needed to be built and organised from scratch – not a business proposition with which to confront your bank manager today. To provide the additional funding required, Steiger found local investors, as well as a certain Hans Adeneuer who joined the board in 1921 and soon held 48 per cent of the new company's shares.

Development of the Steiger car began in late 1917, with Germany in political chaos and peace not yet in sight. Photographs taken in 1918 show a visibly confident Walther Steiger with a fully operating prototype, so obviously no time had been lost on that ambitious project. However, tooling up for production took time: it appears that the first customer cars were delivered in early 1920. But what cars they were, combining Henze's ample design experience with the latest aero engine ingenuity.

Advanced engineering, traditional production methods

All production Steiger cars shared a common concept, based on the original Type 10/50. In general layout as well as individual manufacturing solutions, the engine leaned heavily on WW1 aircraft engine design practice. A long-stroke inline four, with shaft-driven overhead camshaft and carefully designed heads for improved gas flow, it was state of the art for production engines of that time. Tube-type, drilled connecting rods as well as cast light metal pistons (aluminium-magnesium alloy in this case), all perfectly balanced, must be considered a spin-off from aero engine experience. For the sake of a short overall length, Henze fitted only two crankshaft bearings; not surprisingly it appears the Steiger crankshafts had to be strengthened over the years.

Another of Henze's hallmark design peculiarities was an extremely long stroke. The Steiger 10/50 featured dimensions of 72 by 160mm, giving an overall displacement of 2.6 litres. Contemporary factory literature praised the long stroke – almost anachronistic even by 1920 standards – as it helped with lots of torque at low rpm. An output of 50bhp at 2400rpm was advertised. Specific output of 19.3bhp/litre was considered to be highly respectable while not in the same league as, for example, a Lancia Lambda's.

Henze went to great lengths when it came to the engine's external appearance. Clean and uncluttered, with a prominent, rounded cam box slightly reminiscent of a Brescia Bugatti's, his engine's visual impact is impressive, with most of the important components being fully enclosed, and accessibility as well as ease of cleaning carefully considered. The crankcase consisted of one remarkably large casting sitting directly on the frame rails, fully shielding the engine compartment from the road below. The gearbox casing acted as a chassis cross-member.

The depth of production in Burgrieden is

quite surprising in view of the plant's small output. Ancillaries were sourced from the best suppliers. A single Zenith updraught carburettor was fitted, together with Bosch magnetos and lamps and a specially designed four-speed gearbox built by the already renowned Zahnradfabrik Friedrichshafen (ZF). In later years, a ZF-built preselector gearbox was to become available as an option. A 12-volt generator sat on the rear of the cambox, well out of harm's way, but on later cars was relocated to a more conventional location.

The car sat on Rudge wire wheels, fitted with 820 by 120 beaded-edge tyres. On early Steigers a lever actuated the rear drums while the pedal operated on a large transmission brake. Front-wheel brakes were added during 1924. The chassis weighed in at about 2300lb, with 3300lb being quoted for a Steiger with tourer body.

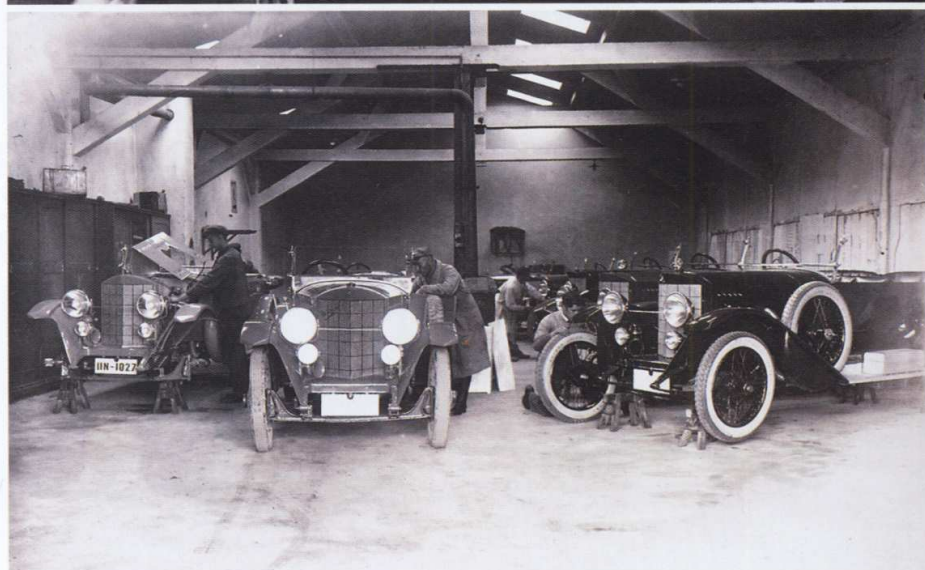
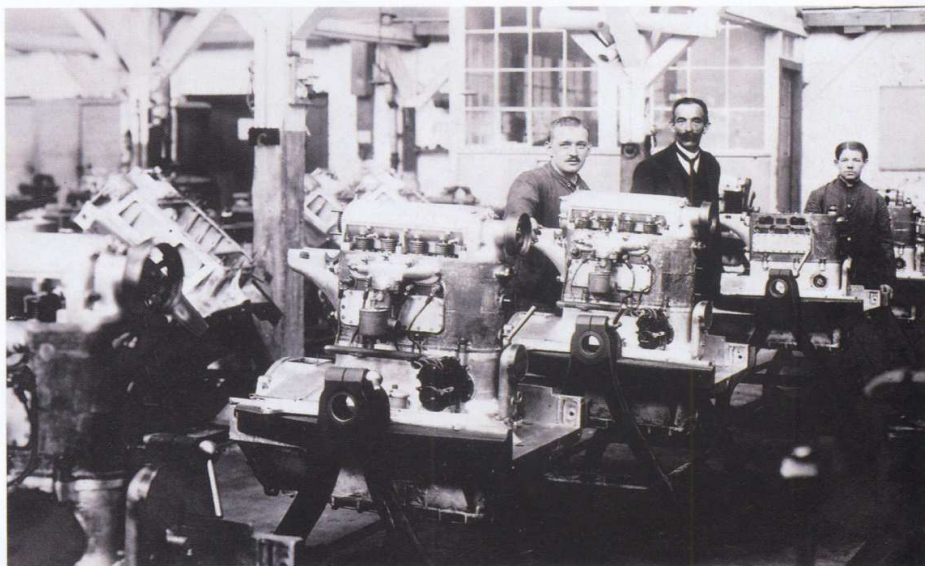
Steiger customers soon asked for more powerful engines. With slightly enlarged capacity, the 2.8-litre Type 11/55 became the most popular model, allowing a top speed of 75mph. To the delight of competition drivers, a 2.9-litre sports car, delivering 70 horsepower in standard trim, was available from 1924 – its

excellent performance was very much comparable with that of the contemporary Three Litre Bentley. In modified form, these engines were said to be good for as much as 100bhp, resulting in seriously effective road-racing cars, as we shall see.

Early cars were sold in chassis form only, to be clad with open tourer bodies as well as light saloon coachwork. However, Walther Steiger soon had his own bodywork designed and built by Hans Neuer in nearby Ulm. Neuer not only built rakish tourer bodies but also got rid of the early, egg-shaped radiator. The famous razor-sharp, pointed radiator designed by Neuer soon became a Steiger trademark, as did its goat emblem. Most Steigers were fitted with external exhaust pipes on the left side of the bonnet – a sporting touch normally reserved for pure racers and expensive sports cars. Steiger cars, even to this day, are easily identified on photographs because of their distinctive radiators, uncluttered Neuer coachwork (even the tool boxes were cleverly hidden from view) and those unusual exhaust pipes.

Contemporary press reports often referred to Steigers as 'German Bugattis', but this

Below Engine assembly at the Burgrieden factory Bottom Final assembly of cars



comparison does not seem very apt. As an upright, powerful and well-engineered sporting tourer for the gentleman driver, flawed only by inadequate brakes, the Steiger embodies many of the charming virtues of a sporting Vauxhall of the period.

Judging by contemporary photographs, Steiger production methods never were as up-to-date as the cars themselves. With a relatively small output of one or two cars a day, production relied on small-batch parts manufacture and manual assembly, conforming with pre-WWI practice. Ford methods never found their way to Burgrieden.

Steiger cars soon earned a reputation for top quality as well as superb engineering, but at a rather steep price. A sporting Steiger cost anywhere between 12,000 and 18,000 RM – the price of a house at the time. Still, the cars sold reasonably well both in Germany and abroad; several even found their way across the Atlantic. The marque soon gained a reputation as a successful competition proposition.

Hill climbs and circuit racing: Steiger in competition

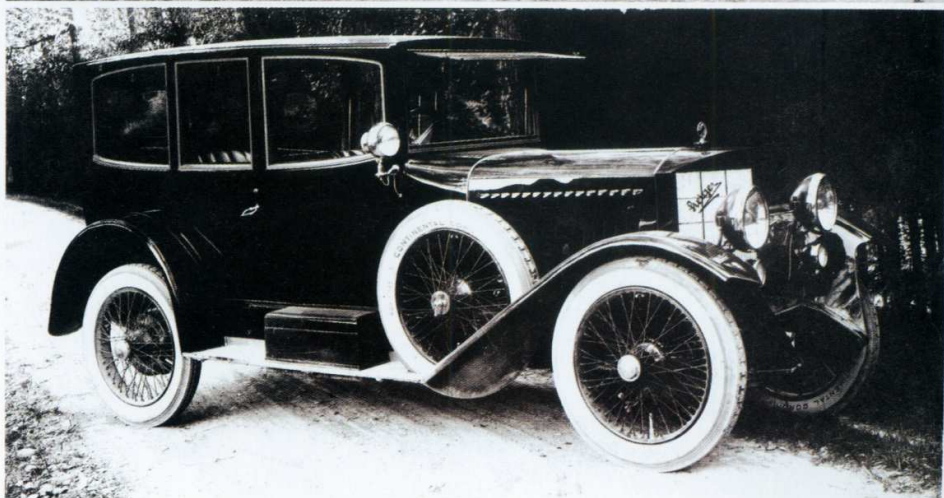
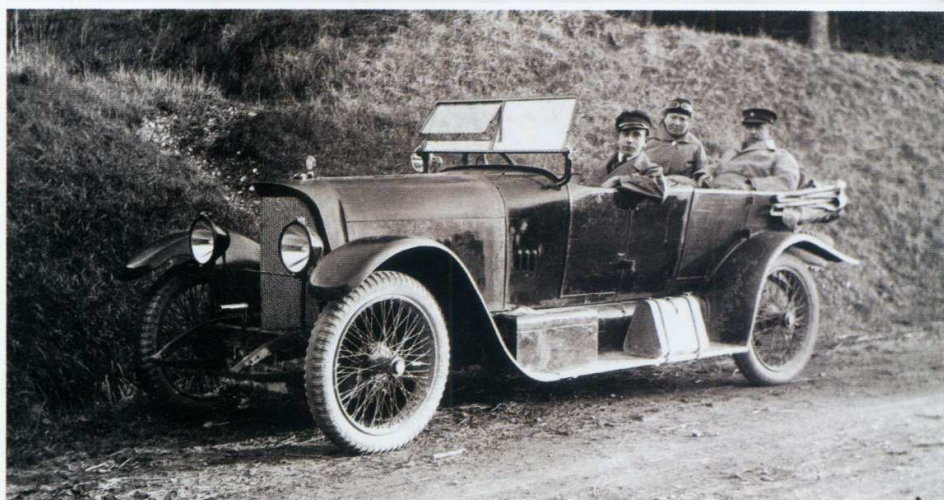
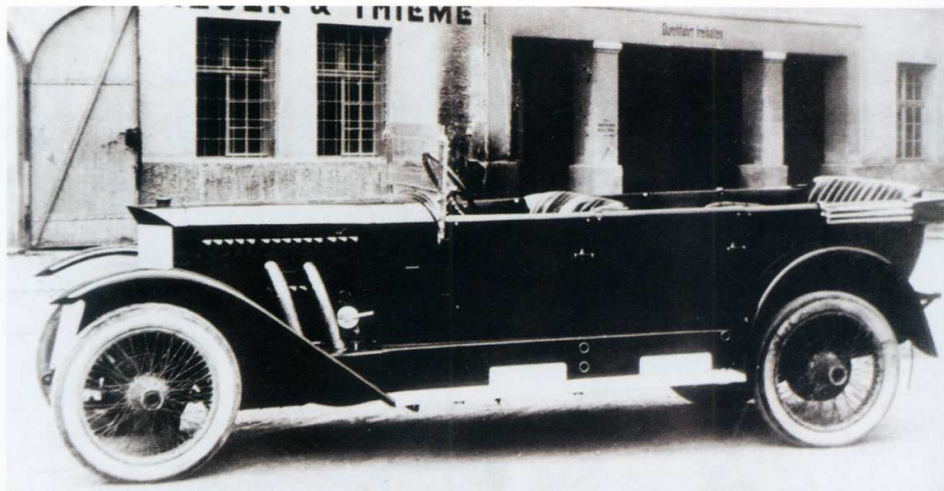
Win on Sunday, sell on Monday: that's what Walther Steiger did. His cars proved highly successful in German motor sport events during the early 1920s, both with factory drivers and with various private entrants. Steiger sent his small racing team to many a hill climb, circuit or endurance race, occasionally driving one of the cars himself. The factory racers were all based on production cars, often stripped down and occasionally with shortened or drilled chassis, Mercedes SSKL-style, and highly-tuned engines.

The 12/70 sports car in particular lent itself well to competition. Capable of 140km/h (87mph) in standard trim, modified examples reached speeds in excess of 170km/h (105mph). Soon nicknamed *Bulle* (which needs no translation), the 12/70 proved to be particularly competitive, factory driver Walter Kaufmann scoring a highly improbable third place in a 1925 Solitude race behind a supercharged Mercedes and a Bugatti.

Steiger cars often dominated local hill climbs and races. Most notable among the privateers was Reinhard König-Fachsenfeld, later to gain fame as one of the pioneer German automobile aerodynamics experts. Ines Folville, who ran a Steiger dealership in Frankfurt, was one of the most dedicated female racers of the period, winning a variety of events including several 24-hour endurance races.

But it was the factory drivers who dared to tackle the great international events: Walter Kaufmann and Daniel Maier, another works driver, scored first and second in class at the notorious Swiss Klausen hill climb in 1923 against highly capable competitors. Maier fought his way to second in class in the 1923 Monza 500km race for production cars.

Motivated by these successes, the team bravely set out to Sicily for the Targa Florio in April, 1924. Woefully inadequate brakes caused early retirements for Kaufmann and Hans Kolb. Daniel Maier pushed on to 14th place. Following this experience, front-wheel brakes at long last became standard equipment on all Steiger cars.

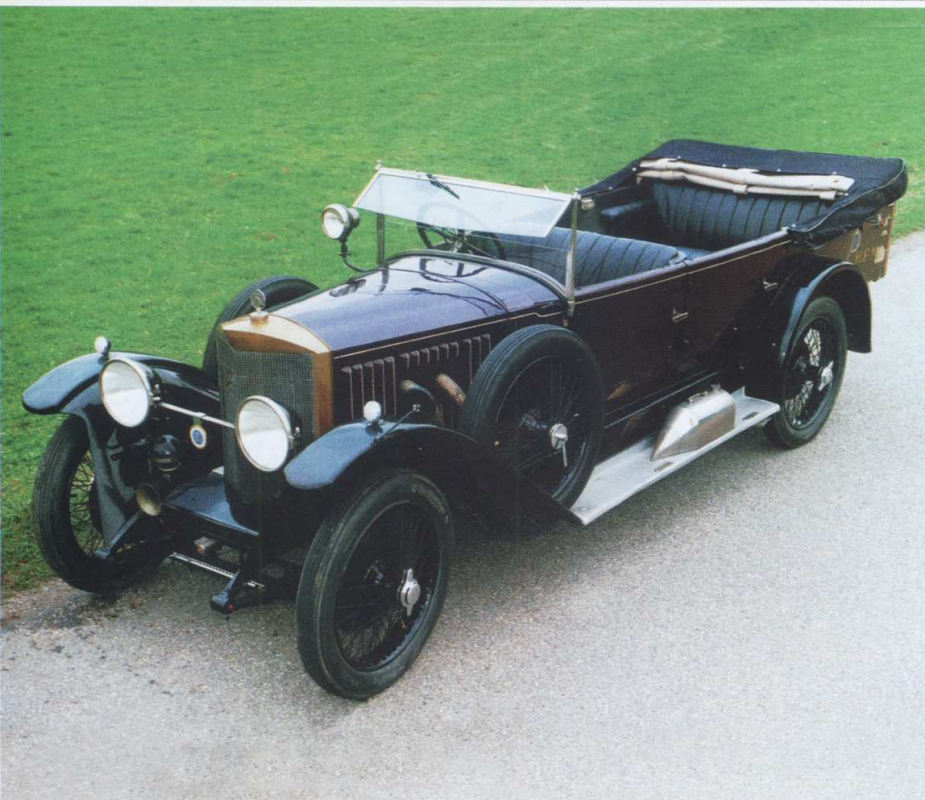
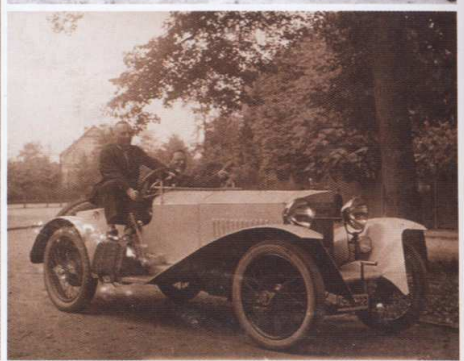
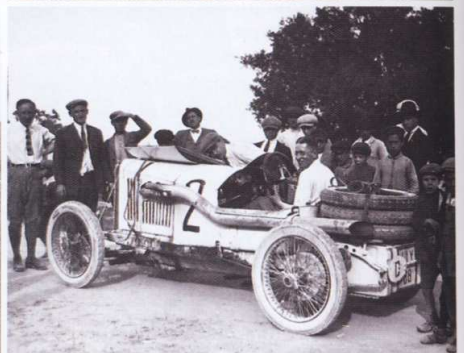
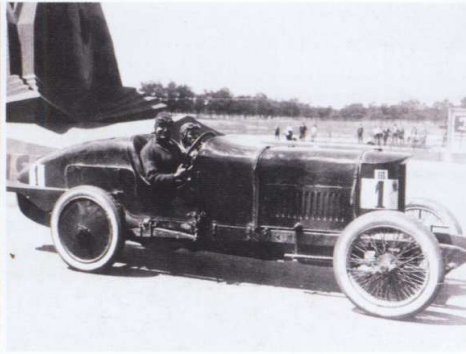


Top A typical Steiger body by Neuer & Thieme **Middle** A well-used tourer, in fact one of the very first production cars **Bottom** A handsome and particularly well-proportioned saloon body by Reutter

End of production and birth of the Steiger legacy

Clearly Steiger was one of many small automobile manufacturers with sound engineering and poor control. Despite undisputed product quality and reasonable sales success, Steiger's old-fashioned production system neither allowed competitive pricing nor really economical production. Modernising the production lines and tooling up for a possible successor model was probably beyond the means of Walther Steiger. Perhaps he sensed a difficult future for his Burgrieden factory: already by

1924 he had obtained a majority share in the Swiss Martini concern. Not unexpectedly, Steiger ran into financial difficulties in 1925. To complicate matters further, he fought a lengthy lawsuit against a greedy and powerful shareholder; winning this case failed, however, to restore the banks' and suppliers' confidence. The Steiger company went into receivership late in 1925. Much effort was spent in trying to keep the business alive, but to no avail; by early 1926 Steiger of Burgrieden had ceased to exist. Walther Steiger, as well as other key personnel,



Top left Ines Folville and her husband at a local event in 1921 **Top centre** Kurt Volkhart and the *Bulle* competition car **Top right** Grim conditions for Koenig-Fachsensfeld at a Solitude race **Above left** Alfred Köllner at the Krähbergrennen with a 12/70 in 1923 **Above middle** A confident Walter Kaufmann and his 12/70 racer **Above right** Hans Kolb and his Targa Florio Steiger **Left** One of two surviving Steiger cars, an 11/55

then moved to St Blaise in Switzerland, taking charge of the Martini factory. For several years they successfully produced the Martini Steiger – a large, robust car relying on a side valve engine. However, the world economic crisis took its toll and in 1934 Martini, too, hit a brick wall.

No reliable production numbers are available, but it has been estimated approximately 2000 Steiger cars were produced in Burgrieden, perhaps more. Yet only two Steigers are known to exist today, just one of them in running order. The deplorable survival rate is thus 0.1 per cent – not untypical for many a German Vintage marque. So if you ever come across that elusive barn-find Steiger, grab it quickly. It is one of the more upright and proper sporting gentleman's cars and a true connoisseur's choice.

Michael Schick, author of the only monograph on Steiger cars (out of print, but the complete story is available online at www.dersteiger.de), kindly reviewed the manuscript and supplied information and illustrations for this article.