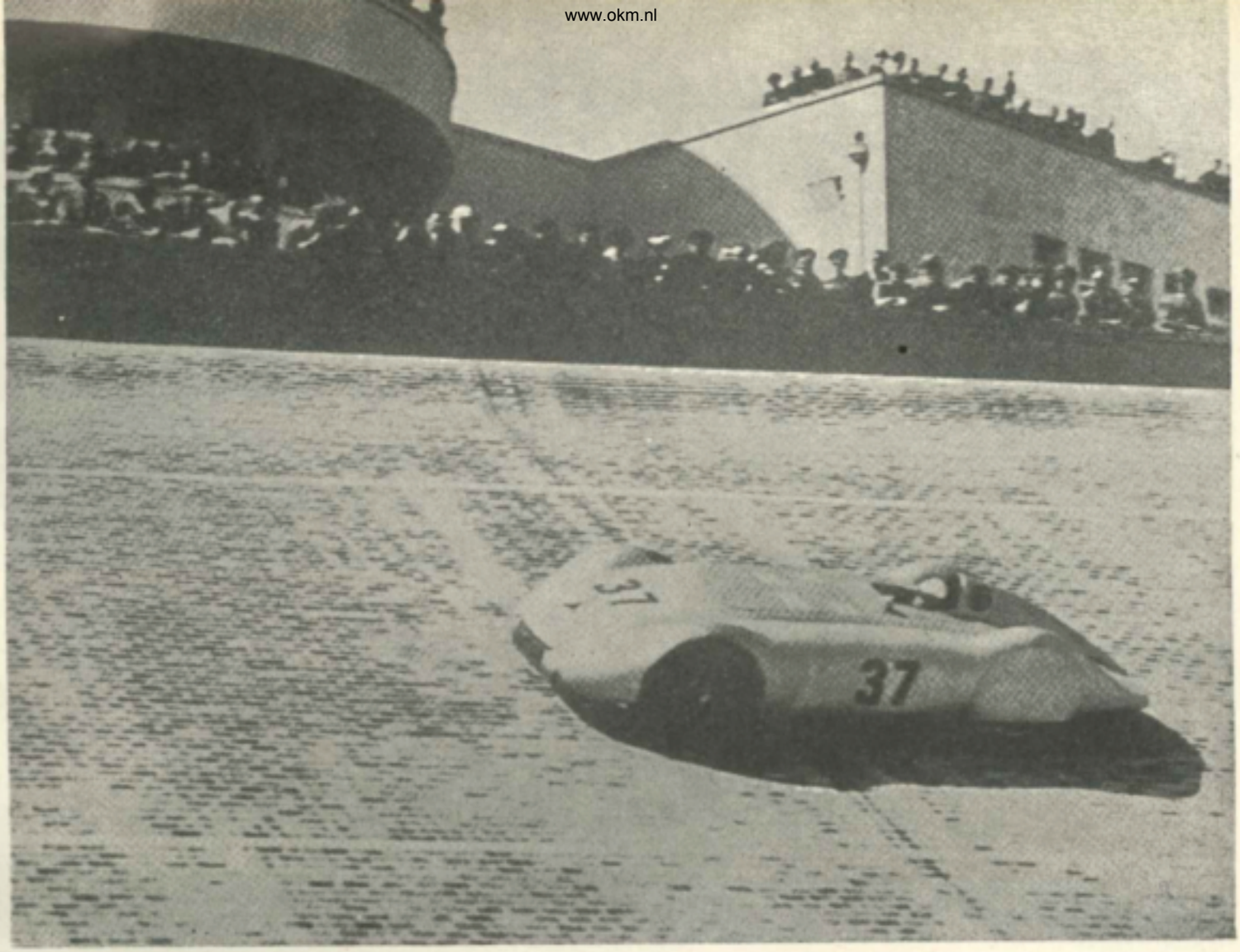

HERMANN LANG at Avus in 1937 with the streamlined 12-cylinder Mercedes-Benz which won at the highest speed (162.61 m.p.h.) ever recorded in a race. Rosemeyer (Auto Union) put in the record lap at the fantastic speed of 171.74 m.p.h.!

Pictorial Record - - - No. 3

The Streamlined "Rekordrennwagen"

BEFORE the war the German technicians of Mercedes-Benz and Auto Union carried out numerous experiments with aerodynamic cars, primarily for record attempts over straight courses but also for track and road racing. The Germans' record-breaking successes were many, and often startling, but the streamlined cars also showed up well at the Avus track on the outskirts of Berlin, where, in 1937, Hermann Lang (Mercedes) won a race at the amazing speed of 162.61 m.p.h., the fastest motor race ever to be run.

For road racing, however, cars with aerodynamic bodywork were not so successful, being difficult to handle and suffering from brake weaknesses owing to insufficient cooling, while it was impossible for drivers to judge adequately the state of the tyres.

In 1935 two Auto Union *Rennlimousins* of the type which had set up records at Florence with Hans Stuck at the wheel, were raced in the Avus G.P. (the circuit was then without its banking), but drivers Rosemeyer and Leiningen were well behind the winner, Fagioli's non-streamlined Mercedes. At Tripoli that year Stuck's road racing "saloon" was tremendously fast (it lapped at 136 m.p.h.!) but eventually caught fire, trapping Stuck in the cockpit. He was released in time, fortunately, but the incident accentuated a serious fault in the racing of saloons. For the French Grand Prix of 1938, H. P. Muller was due to race a streamlined 3-litre Auto Union, but the car was withdrawn after practice had shown it to be unsuitable, even for the very fast Rheims circuit.

Practically all the Mercedes-Benz and Auto Union attempts on International class records were made with aerodynamically streamlined cars, from the initial essay

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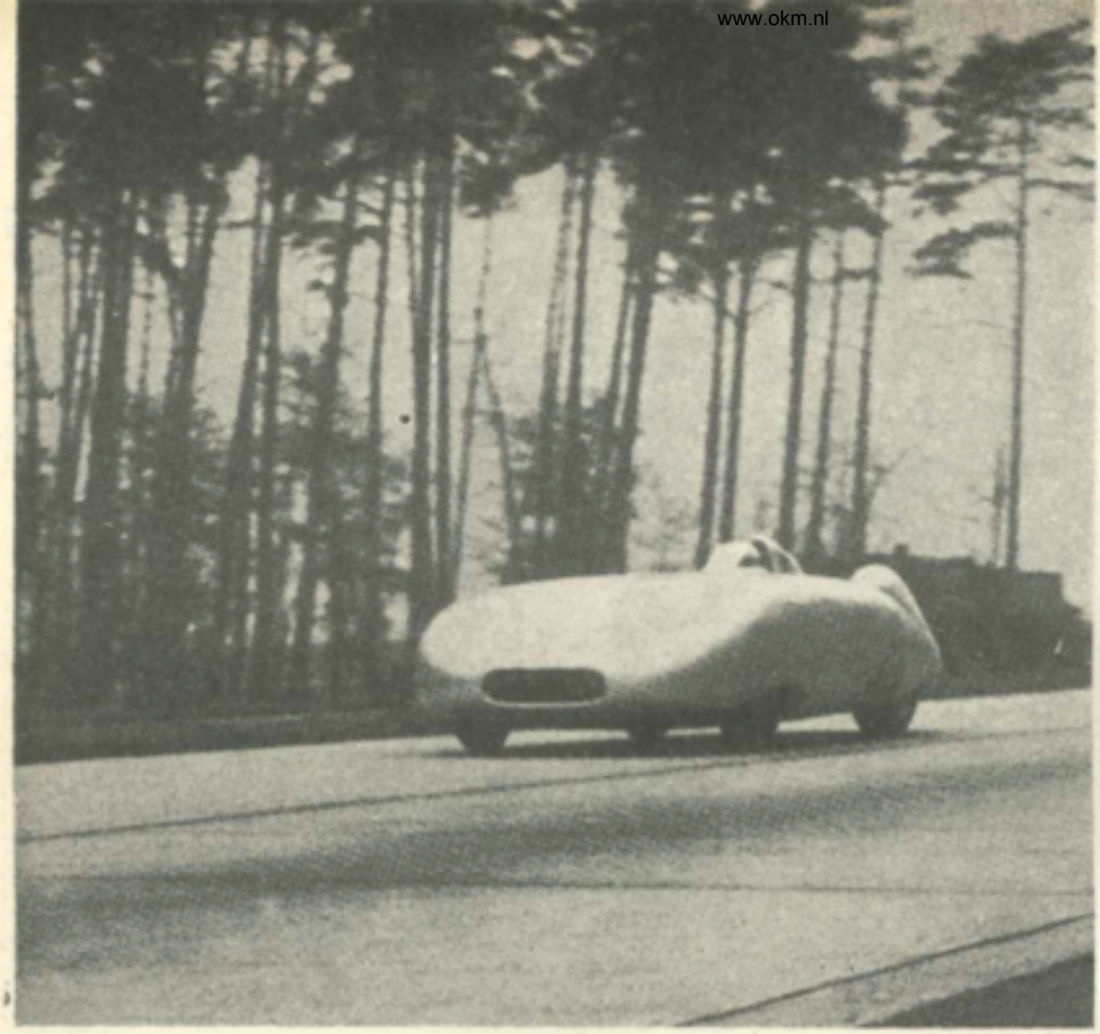
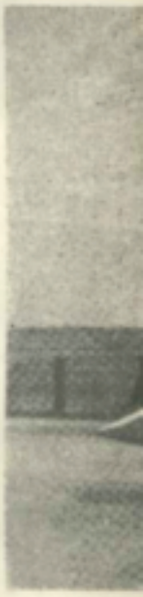


(Above). Caracciola's 5½-litre 12-cylinder Mercédes which broke the world's 10-mile record at 207.13 m.p.h. on the Frankfurt-Darmstadt Autobahn, November, 1936.

(Left). The Mercedes travelling at well over 200 m.p.h. during its record run. It also broke the international flying mile and kilo. records at 226.4 and 228 m.p.h. respectively.



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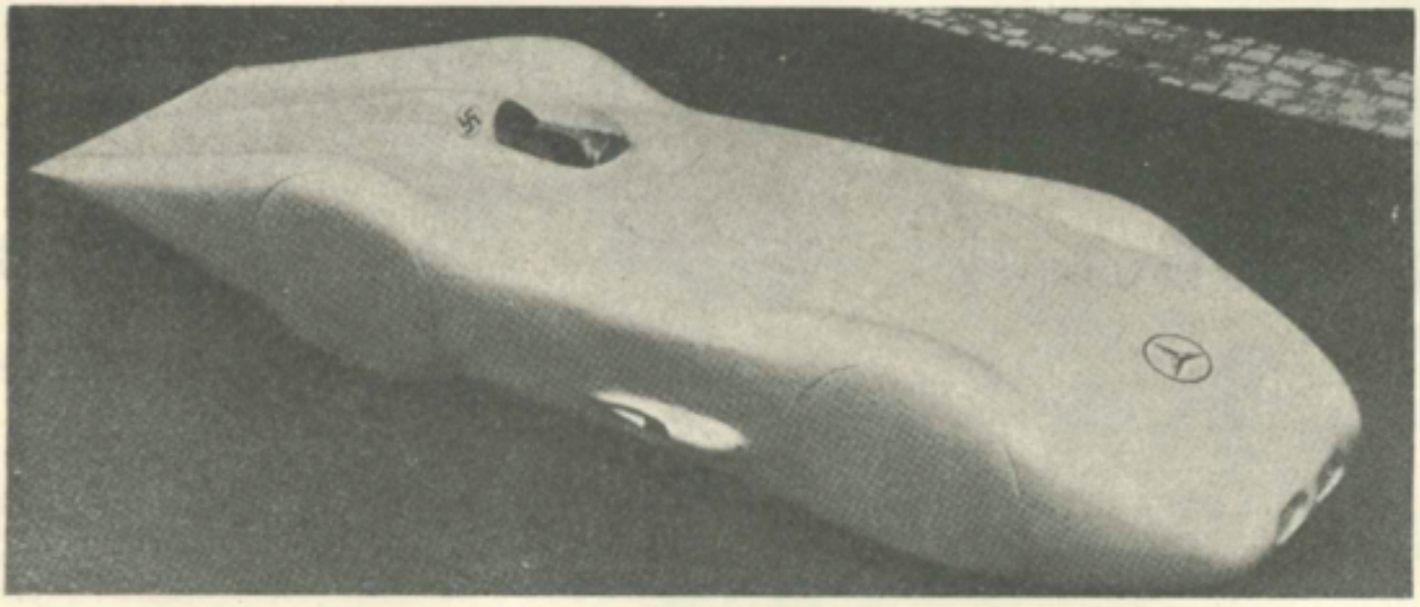

(Left). The beau masterpiece i

The Streamlined "Rekordrennwagen"—*continued*

by Caracciola late in 1934 with the "closed-in" G.P. car at Gyon, when he recorded 199 m.p.h., to the 268.9 m.p.h. he achieved in 1938 at Frankfurt over the flying kilo. and Bernd Rosemeyer's flying mile record at 253.7 m.p.h. with an Auto Union in 1937. Rosemeyer was, of course, killed early in 1938 in a streamlined Auto Union, when a cross wind suddenly deflected his car whilst he was travelling at over 200 m.p.h.

Fully aerodynamic bodywork did not always mean stability at high speed, and it was at the German Records Week meeting on the Frankfurt Autobahn in November, 1937, that Rudolf Caracciola found the nose of his Mercedes lifting alarmingly at over 200 m.p.h. By early 1938 the Daimler-Benz engineers had remedied the fault and "Rudi" took his records without further trouble.

The following year Mercedes produced a record edition of their G.P. 3-litre car, but this time a full width "envelope" was not used, the wheels having separate farings. This car, which took the 3-litre flying mile record at 248.27 m.p.h. at Dessau in February, 1939, bore a surprising resemblance to the Lockhart "Black Hawk" Stutz referred to elsewhere in this issue.

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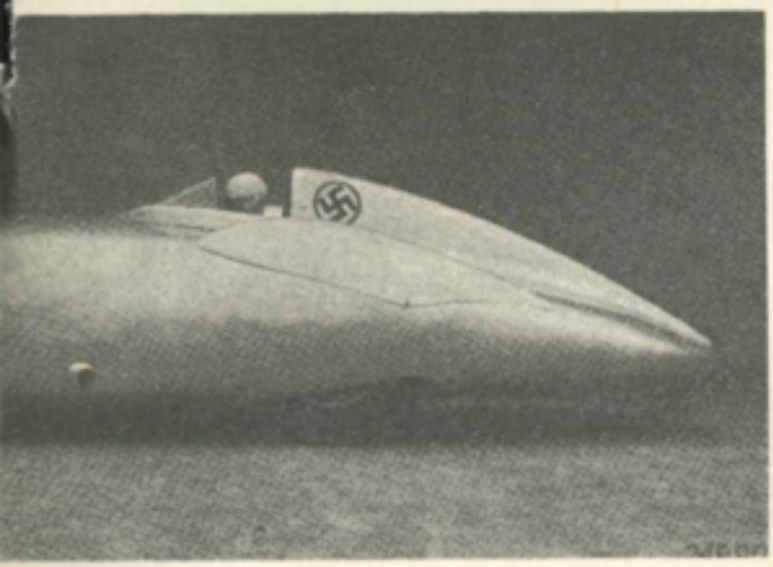

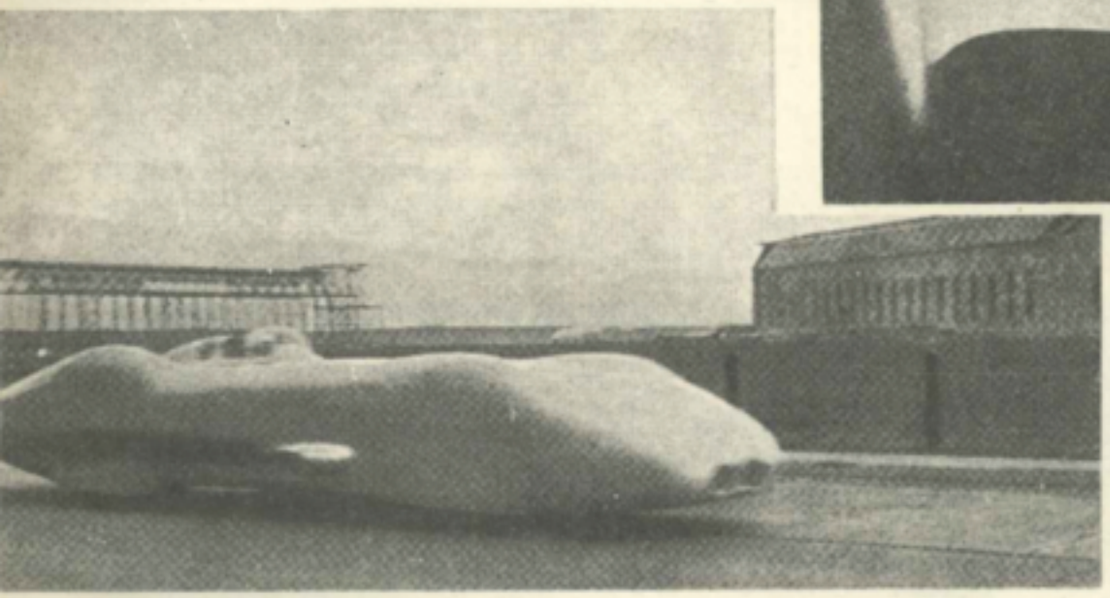

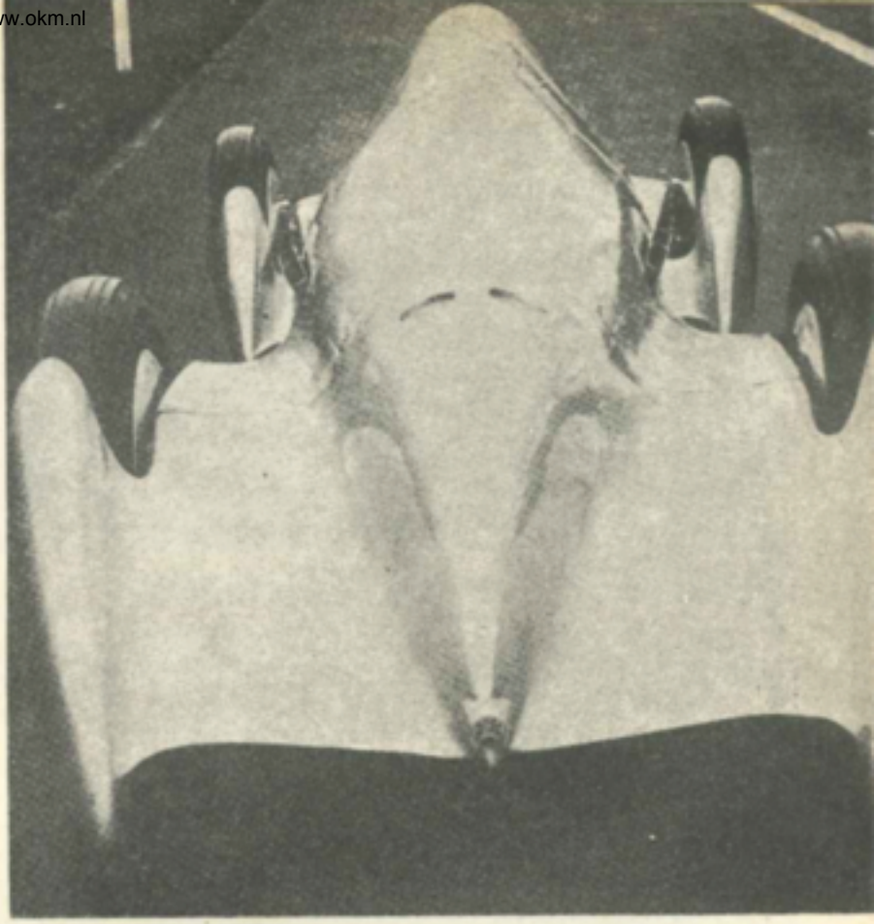

(*Above*). *Rear view of the* 16-*cylinder Auto Union* Rennlimousin *with which Hans Stuck broke the flying mile record on the Lucca Autostrada, Italy, in* 1935. *His speed was* 199.013 *m.p.h. The Auto Union engineers also experimented with total enclosure of the rear wheels, as can be seen in the photograph on the following page.*

Caracciola breaking Class B al flying kilometre figures on rt Autobahn at 268.9 *m.p.h. in* 1938.

l 5.6-*litre Mercedes, a erodynamic design.*

★

. Bernd Rosemeyer made his G.P. n this Auto Union Rennlimousin *lvus race of* 1935. *A "saloon top" of the Grand Prix car without rings appeared at Tripoli the same ut caught fire, nearly trapping Hans Stuck, its driver.*

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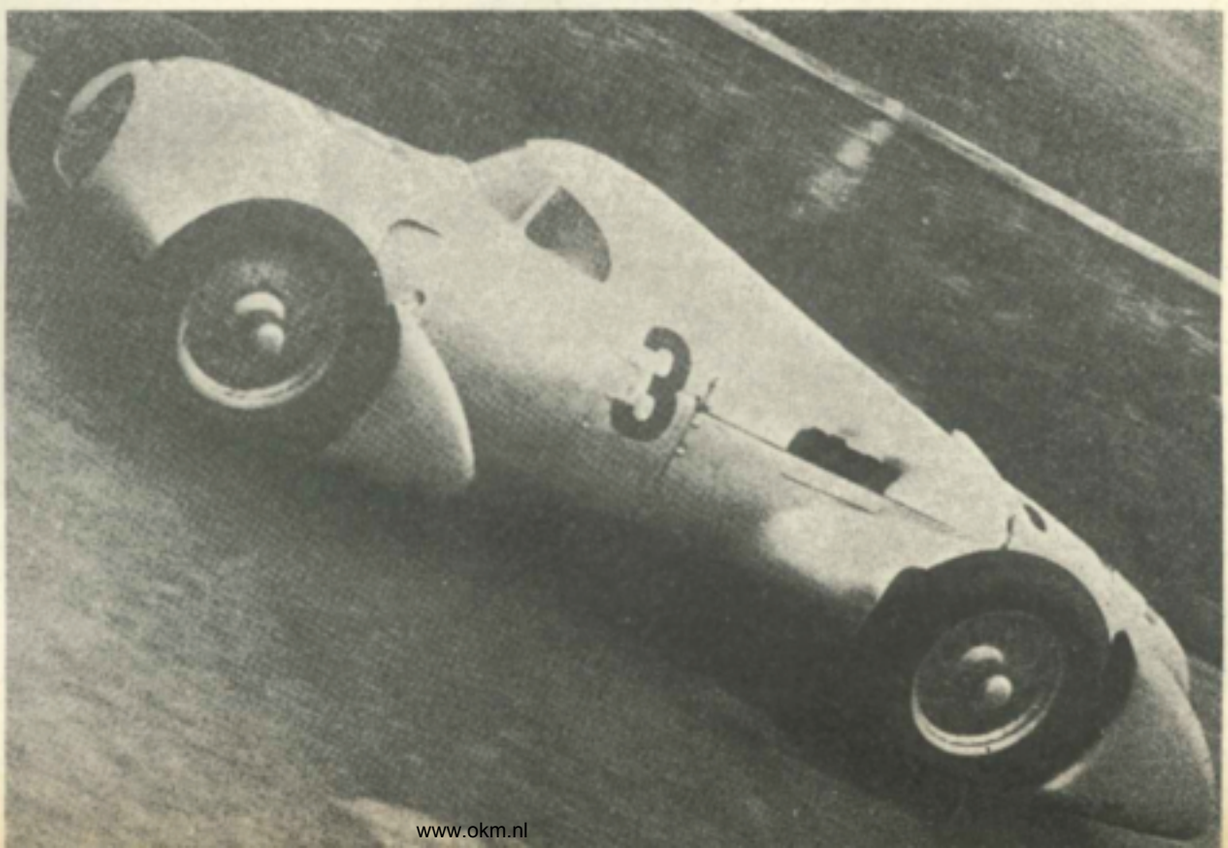

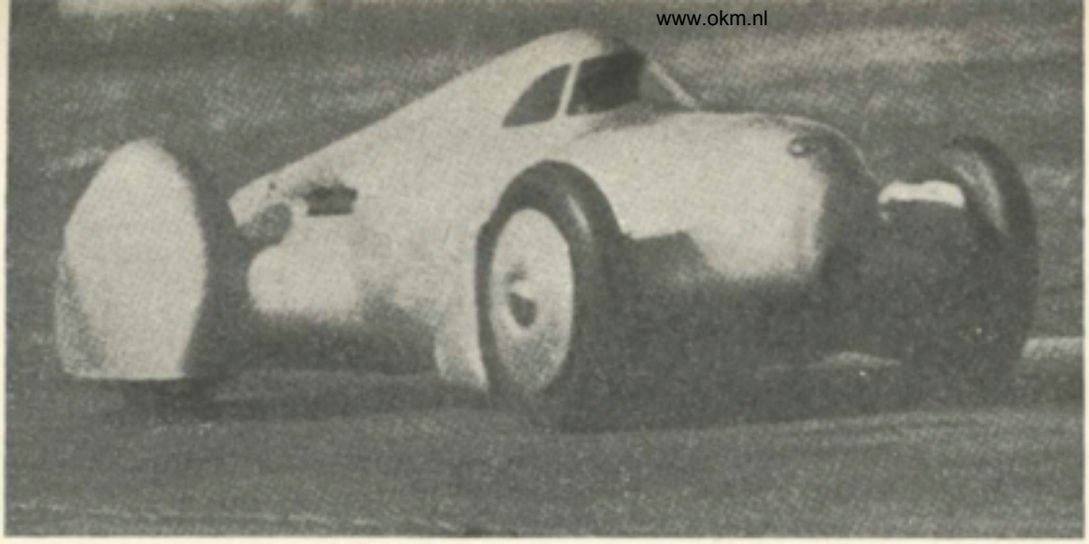

(Left). Hans Stuck at high speed on the Lucca Autostrada, near Florence, in 1935 with the Auto Union Renn-limousin modified to have totally enclosed rear wheels. Nuvolari later improved on Stuck's flying mile figures with the twin-engined Bimotore Alfa-Romeo.

(Below). The experimental V12 3-litre Auto Union which made an appearance at Rheims in 1938 for the French Grand Prix. It was not used in the race.

The Streamlined "Rekordrennwagen"—*continued*

Although Avus has not been available for post-war racing it is obvious that German designers are still keen on aerodynamic bodied cars, notable examples being Veritas and various BMW and Volkswagen specials.

Opinions vary as to whether or not full streamlining is of value in G.P. racing. The Germans tried it and had not war come would doubtless have continued trying. Perhaps their last effort, which was to remain unproven, was the streamlined 3-litre Mercedes-Benz prepared for the 1939 Tripoli G.P., the race which was changed to a 1½-litre event (and which the Germans still contrived to win with the "Mini-Merc"). Post-war sports car designs showed a tendency towards all-enveloping coachwork, but two at least, the Ferrari and H.W.-Alta, quickly reverted to the open type. Yet the amazing speeds of which the "dish pan" bodied car is capable may well cause designers to think seriously again of the wind tunnel, providing the vital problems of tyres, brakes and general handling can be surmounted.

Should any sort of fuel consumption limit be applied to future Grand Prix formulae, the wind-cheating body may prove a vital key to economy. With the tendency to make circuits faster by cutting down the number of slow sections, as at Spa-Francorchamps, the temptation to seek increased maximum speed by the use of overall streamlining may indeed prove irresistible.