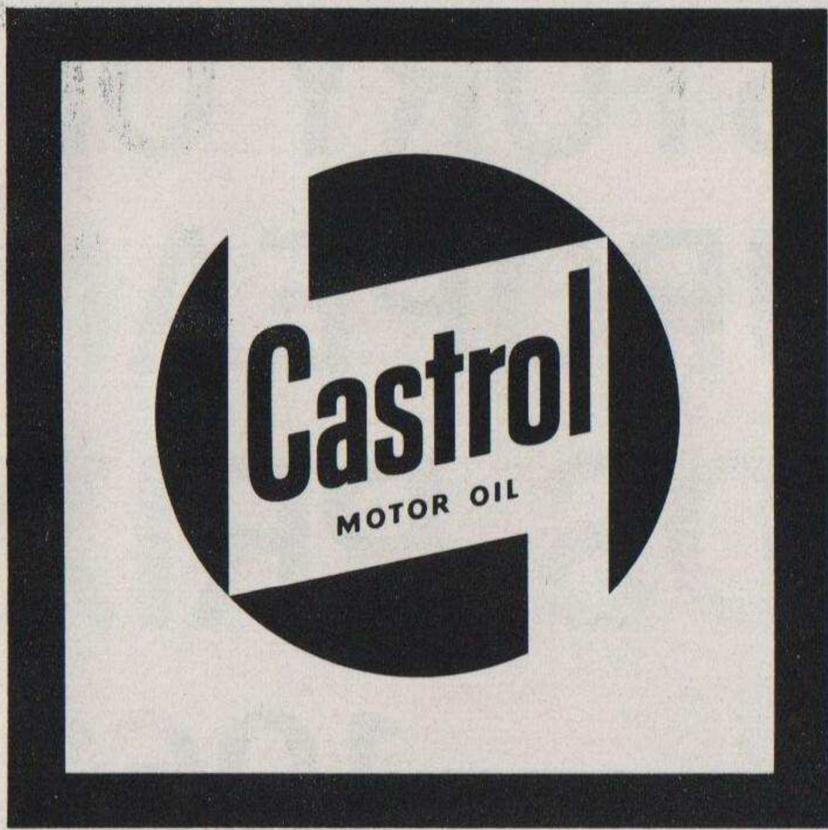




THE CASTROL
BOOK OF THE
EUROPEAN
GRAND PRIX

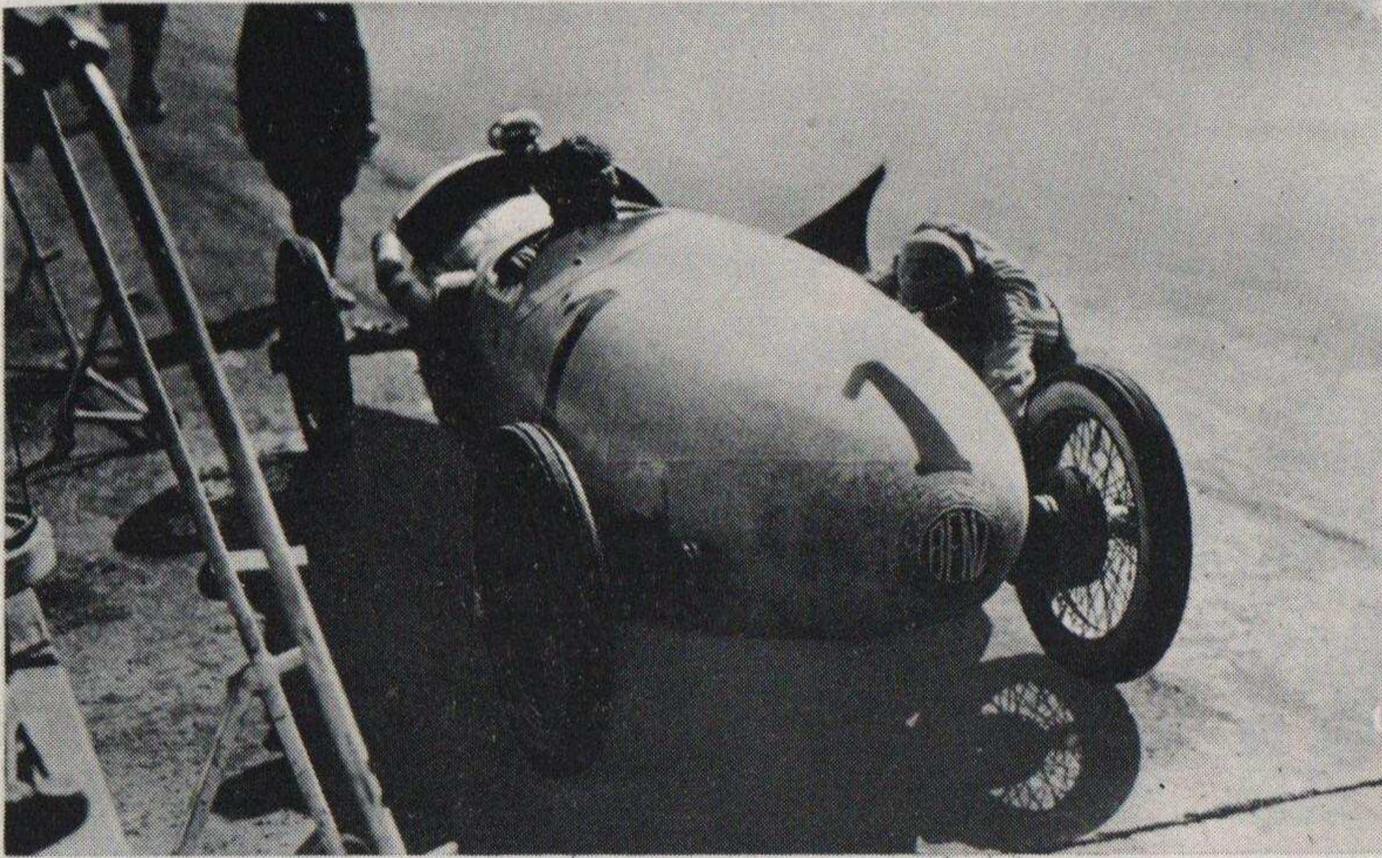






THE CASTROL BOOK OF THE EUROPEAN GRAND PRIX





Benz Monza 1923

THE HISTORY OF THE EUROPEAN GRANDS PRIX 1923 ——— 1963

The first motor race was held in 1894, from Paris to Rouen. Town-to-town contests, over hundreds of miles of ruler-straight French highways, soon became the rage. This era lasted until 1903, when serious accidents during the Paris-Madrid event grimly emphasised the hazards of the new sport. Racing soon resumed, however, over roads temporarily closed to form circuits. From 1906 to 1914, with a gap between 1909 and 1911, the premier annual road race was the French Grand Prix, won first by Szisz on a big Renault (63 m.p.h. for 770 miles), then twice by Mercedes, twice by Peugeot. After the Armistice other nations besides France put on important races and, in 1923, the title of Grand Prix d'Europe was awarded to one race each year. First to carry the honoured title was the Italian Grand Prix, held at Monza on a circuit built the previous year in an Italian Royal Park. The leading drivers, the fastest cars, have contested the European title on 23 occasions. There was one big gap, between 1931 and 1946, which means that the mightiest Grand Prix cars of all, the ultra-powerful 1935-39 Mercedes-Benz, do not figure in this book.

WILLIAM BODDY Editor *Motor Sport*

Ascari out of the race after leading 1924





Antonio Ascari

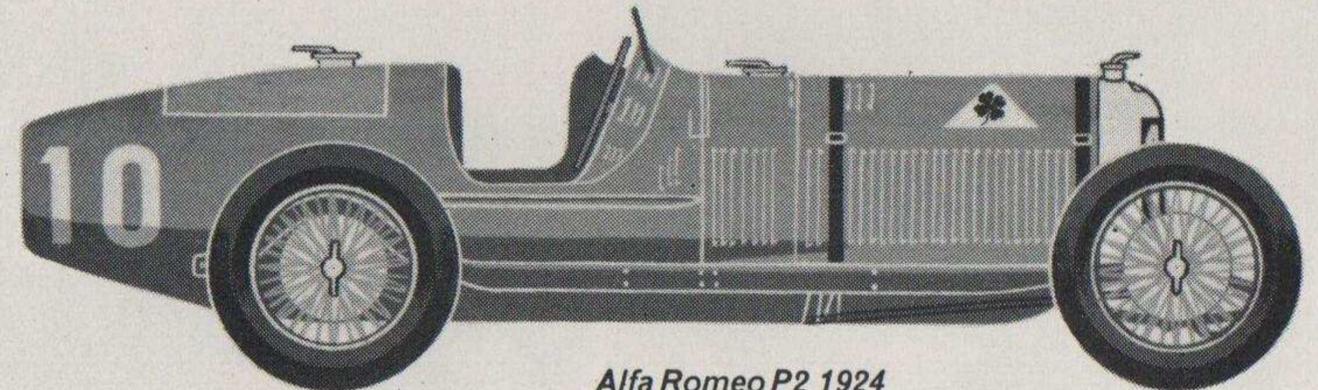
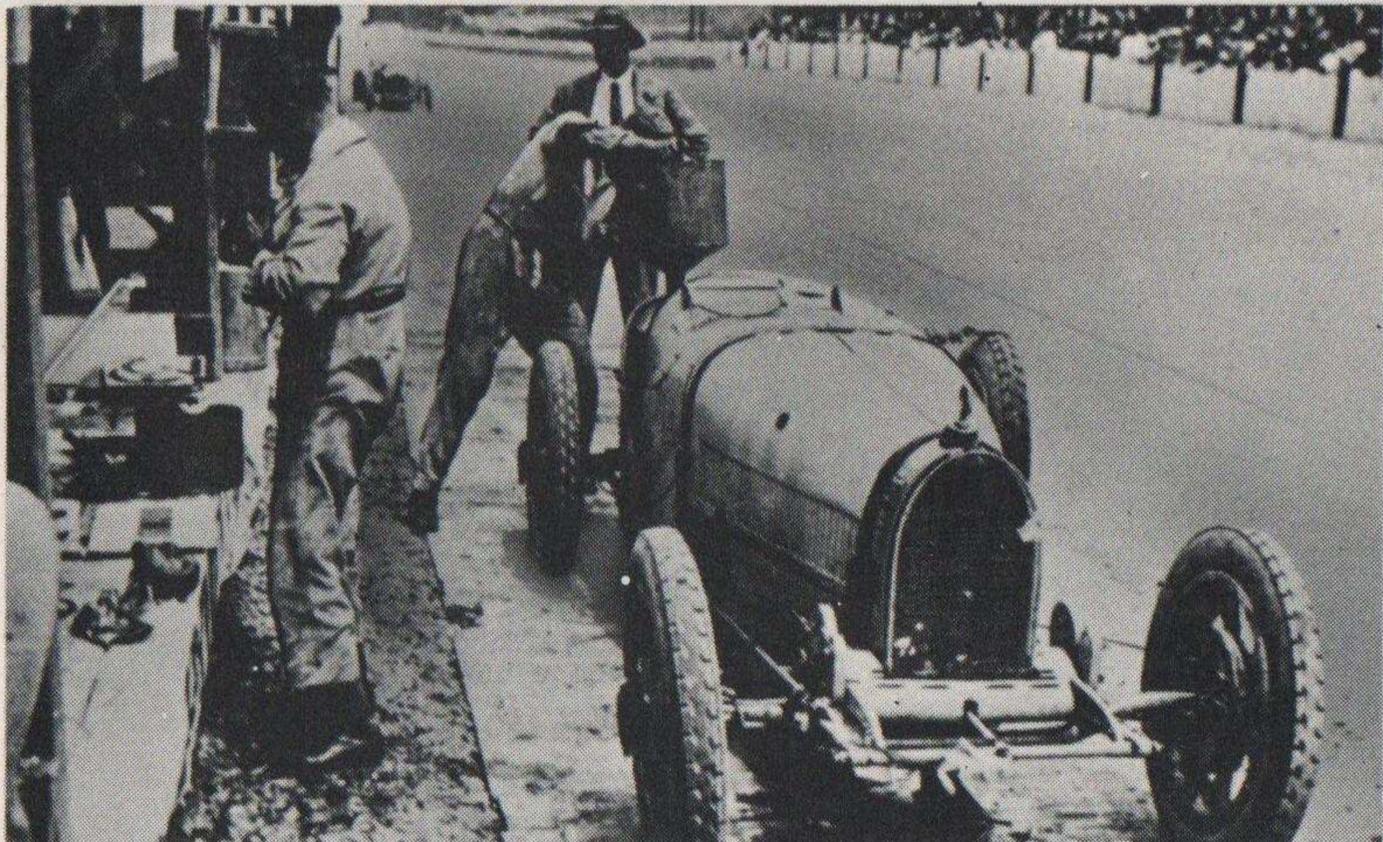
1923 15 cars contested the first European G.P. at the fast Monza Track, on September 9th, six finished. The 2-litre straight-eight Fiats dominated the race. Bordino, an arm out of action after a practice crash, his mechanic changing gear, led until a tyre burst. His team-mates Carlo Salamano and Felice Nazzaro finished 1st and 2nd, Murphy's American Miller 3rd. British representative Zborowski (Miller) burst his engine. Salamano averaged 91.06 m.p.h. for 497 miles, set lap-record of 99 m.p.h.

1924 Run over the historic Lyons course, the race was a battle between Bordino's Fiat and the 2-litre straight-eight Alfa Romeos. After the Fiat team broke up, Antonio Ascari's Alfa led for 200 miles, then slowed with a red-hot engine. Opera-singer Campari went ahead to win at 71.0 m.p.h. Divo drove vivaciously to finish 2nd in a V12 Delage, Benoist's Delage was 3rd. Segrave in a British Sunbeam, fastest cars on the circuit, made fastest lap, at 76 m.p.h.

1925 Dull race. Scene was Spa in Belgium. Seven starters, four V12 Delages and three Alfa Romeos, to the 2-litre formula, didn't promise much excitement. Thomas chased Brilli-Perie's Alfa until his Delage caught fire. Divo (Delage) set lap-record, immediately broken by Ascari's Alfa at 81½ m.p.h. Half distance, only four left—three Alfa's and Divo. Brilli-Peri broke a spring, Divo retired. Ascari drove on to victory, averaging 74.5 m.p.h. Only Campari remained to follow him in 22 minutes later.

1926 Again dull, but strenuous. Cars now 1½-litres, supercharged. They had to race for 485 miles at San Sebastian. Three Delages and three Bugattis were flagged off. All finished but fumes and the sun caused the Delage drivers much distress. While they cooled off Jules Goux's beautiful alloy-wheel 8-cyl. Bugatti won at 70½ m.p.h. Bourlier and Senechal who leapt unmasked into the hot-seat, his first drive in a racing car, finished 2nd, Constantini's Bugatti 3rd. The Bourlier Delage was disqualified.

Ettore Bugatti supervises Goux's refuel 1926

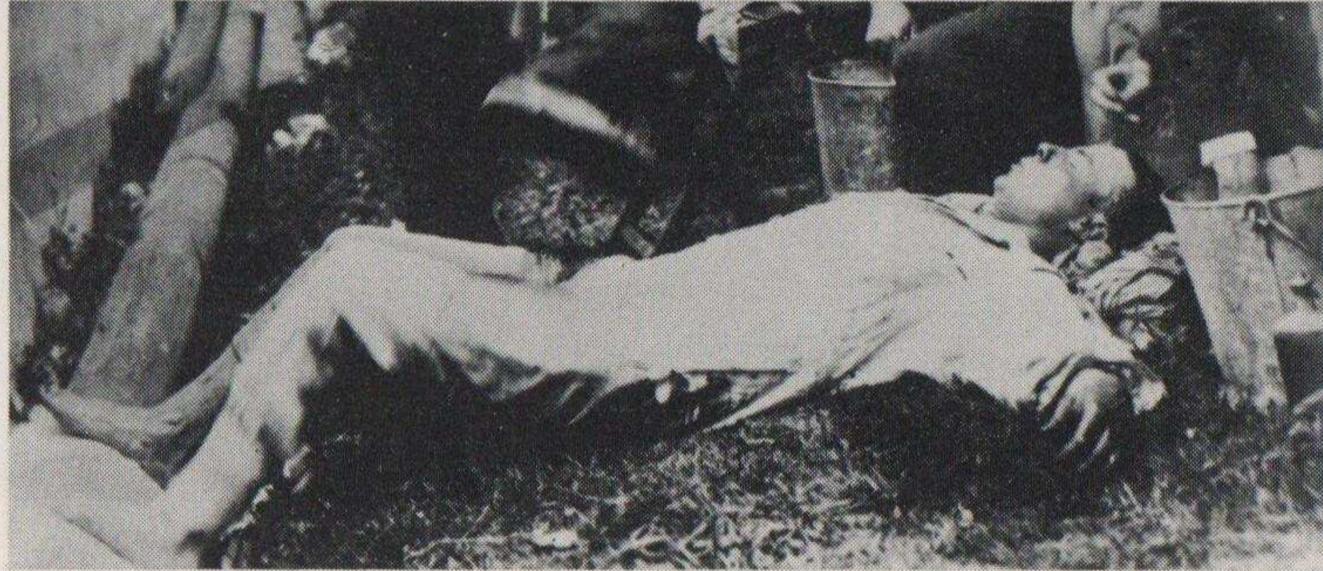


Alfa Romeo P2 1924

The car illustrations in this book are drawn to scale to aid comparison.

1927 Back to Monza. Only half-a-dozen runners. Heavy rain after three months of sun. Robert Benoist's blue Delage from France ran away with it, covering the 311 miles at 90.04 m.p.h. inclusive of pit-stop for fuel and tyres. An American Duesenberg held second place but was lapped by Benoist before retiring. That left a couple of O.M.s and Kreis' front-wheel-drive Cooper Special, another American car, to trail the Delage, Morandi's O.M. coming 2nd, the Cooper 3rd.

Exhausted Delage driver 1926

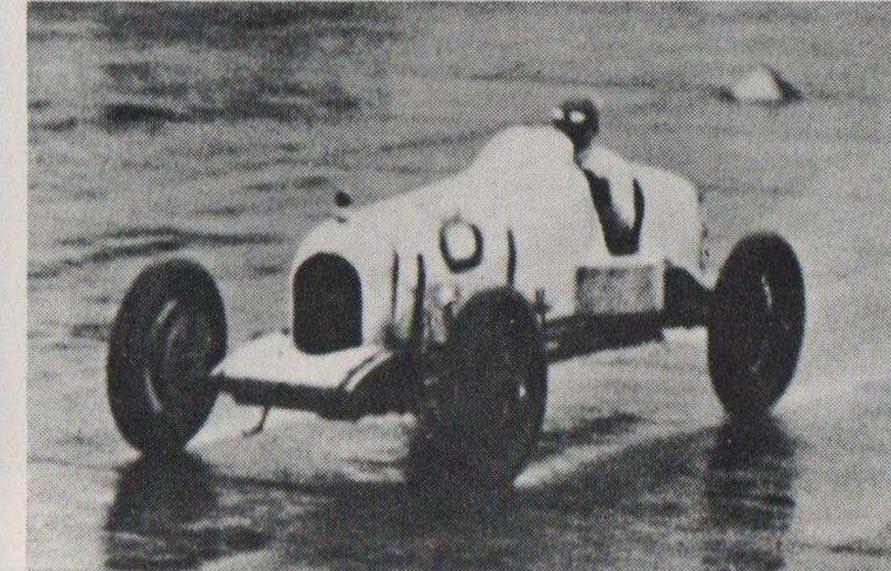


1928 Monza again. A tragic Grand Prix. Materassi's Talbot left the course and killed the driver and many spectators. Run under weight-limit rules, the race was a victory for the effervescent Frenchman, Louis Chiron, whose 2-litre Bugatti won at the record speed of 99.14 m.p.h., beating his rival Achille Varzi by 2 m. 20.8 s. Nuvolari's Bugatti was 3rd. The remaining places were filled by another Bugatti and two Maseratis, in that order, two more Bugattis being flagged-off before the end.

Chiron

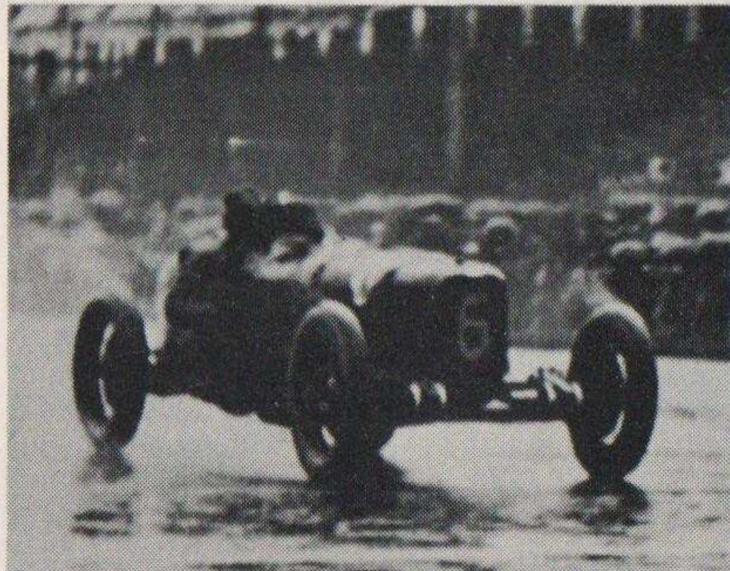


Souders(Duesenberg) 1927

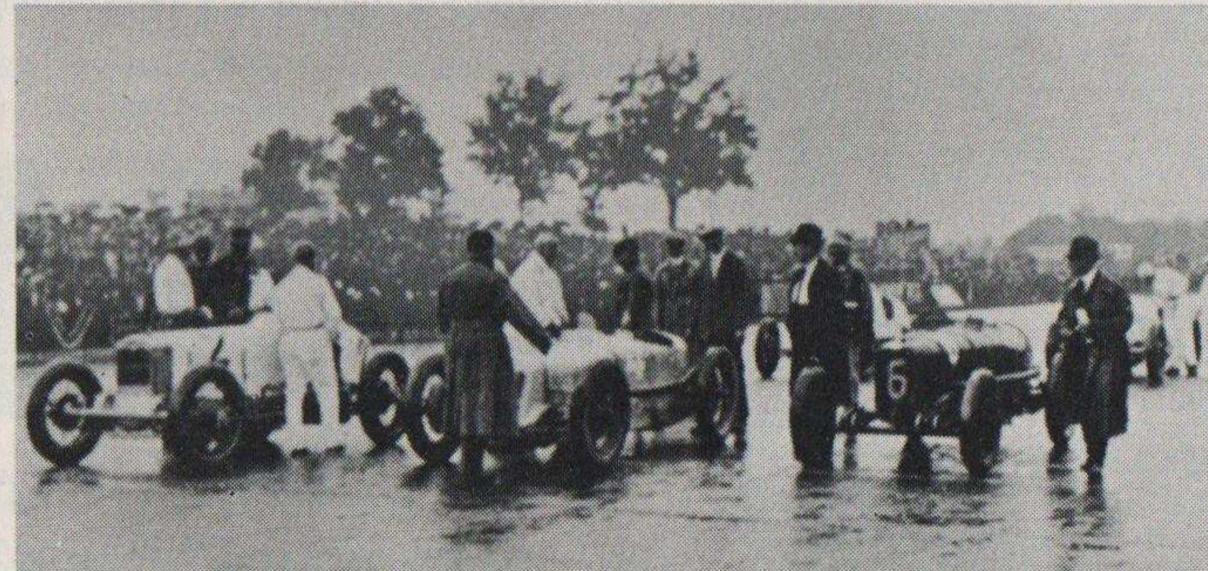


1930 The European title, omitted in 1929, was reinstated for this year's Spa Grand Prix. Alas, racing was in the doldrums and the fuel-consumption limit imposed reduced the scope of the race, this ruling having little appeal to constructors or spectators, let alone to the drivers. Under the circumstances the cars circulated cautiously for 311 miles, Chiron (Bugatti) repeating his 1928 victory at a conservative 72.1 m.p.h. Bugattis, driven by Bouriat and Divo, were placed 2nd and 3rd.

Morandi(OM) 1927



The start Monza 1927



1947 The title of European Grand Prix which had lapsed since 1930 was revived for the Belgian G.P., a race run over 310 miles of the very fast Spa circuit. The rules enabled designers to use super-charged engines of up to 1½-litres or atmospherically-fed power units not exceeding 4½-litres. The Alfa Romeo 158s were by now invincible. Jean-Pierre Wimille won for the Italian constructor at 95.28 m.p.h., followed home by teammates Varzi and Trossi.

Wimille explains

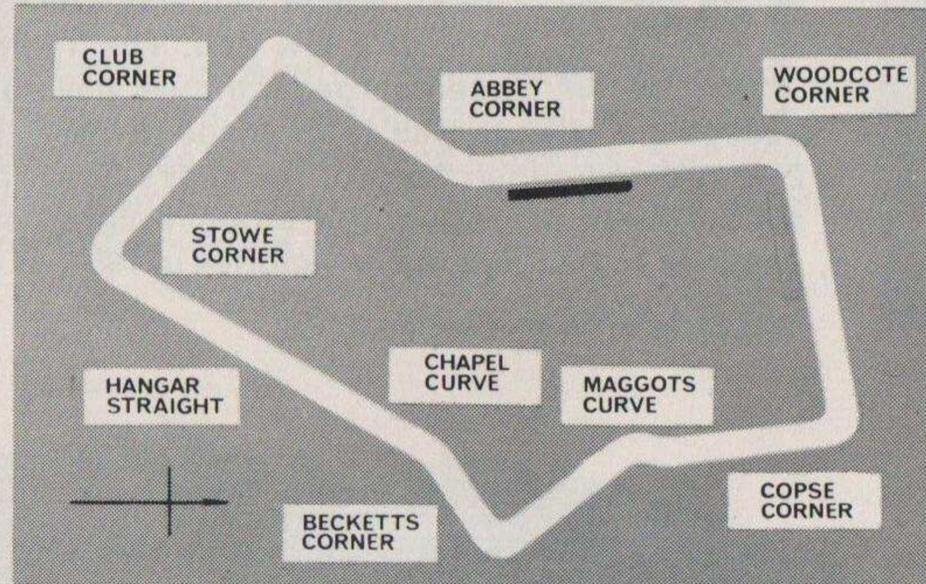


1948 Run under the same rules as in 1947 but contested over the since-defunct forest-flanked Berne circuit, the distance down to 190 miles, the Alfa Romeos, now developing over 300 b.h.p. from their two-stage supercharged 1½-litre engines, were still supreme. Achille Varzi crashed fatally while practising but Italian honour was upheld by Count Trossi and the Frenchman Jean-Pierre Wimille. They ran home 1st and 2nd, Trossi averaging 90.81 m.p.h. They were trailed by Villoresi's CLT Maserati.

Wimille (Alfa Romeo)



Silverstone

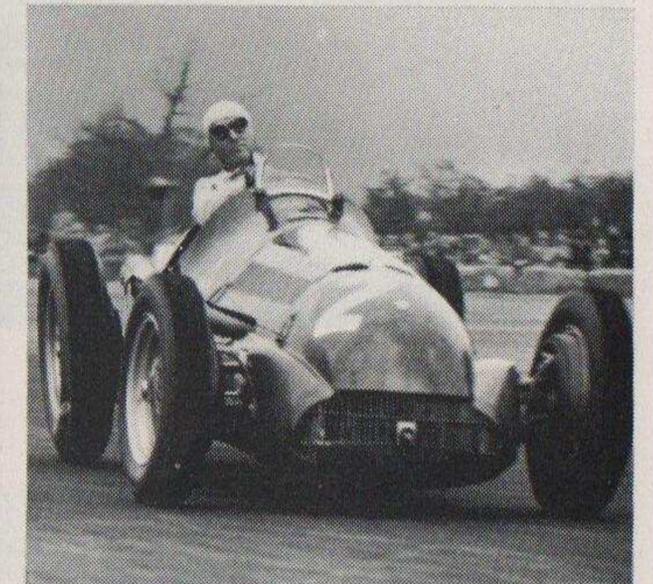


1949 Alfa Romeo having temporarily retired from the arena, racing was mostly a series of Ferrari/Maserati duels. The European G.P. was back at Monza where the title was instituted. Alberto Ascari, son of the former Alfa Romeo driver Antonio Ascari, in his third season, led for Enzo Ferrari, driving one of the V12 240 b.h.p. cars. He averaged 105.09 m.p.h. for the 313 miles. Second place went to Etancelin in a big non-supercharged Talbot, with Prince Bira's Maserati 3rd.

Royal occasion



Farina



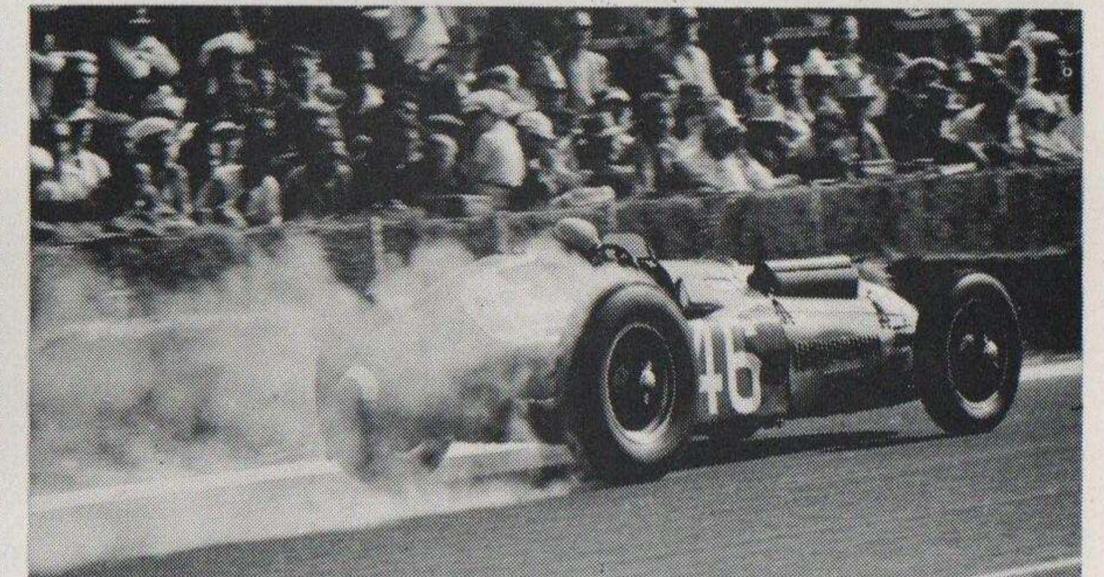
1950 Britain at last staged a European G.P., at the Silverstone airfield circuit. Watched by Their Majesties the King and Queen and Princess Margaret, it was a demonstration of Italian might. The Alfa Romeo team played to the 100,000 crowd, continually changing positions. Fangio hit a straw-bale, retired with a con.-rod broken. But the Alfas were secure, Farina 1st (90.95 m.p.h.), Fagioli 2nd, our Reg. Parnell 3rd. First British car, Gerard's E.R.A., 6th.

Start Reims 1951



1951 A real motor race. Alfa Romeo, back in the game, with 400 b.h.p. blown 1½-litres, Ferrari with big 4.5s, were both determined to win. Ascari (Ferrari) led, broke his gearbox, so Fangio (Alfa) went ahead. He retired, took over Fagioli's car; Ascari took over Gonzales' Ferrari. Dr. Farina now led for Alfa, Ascari 20 sec. behind. But Fangio, reaching 180 m.p.h. down the Reims straight, came through to win by 58 sec. from Ascari, Villoresi (Ferrari) 3rd, Parnell (Thinwall Ferrari) 4th.

Cabantous (Lago Talbot) 1951

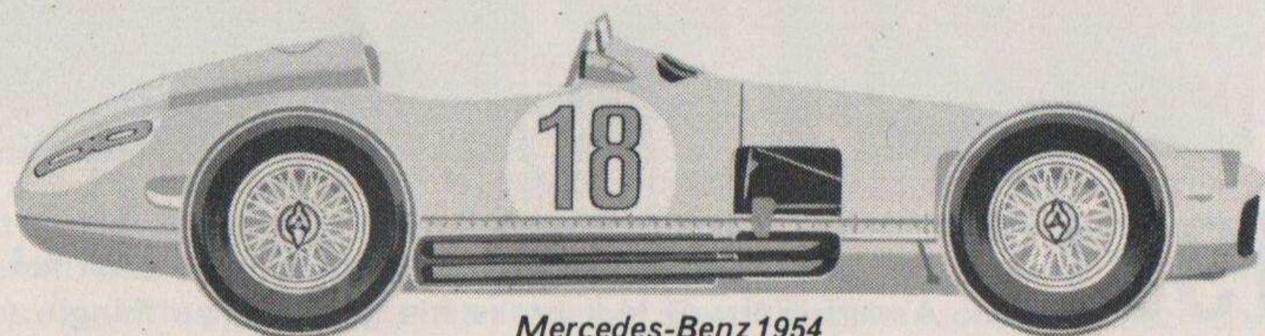




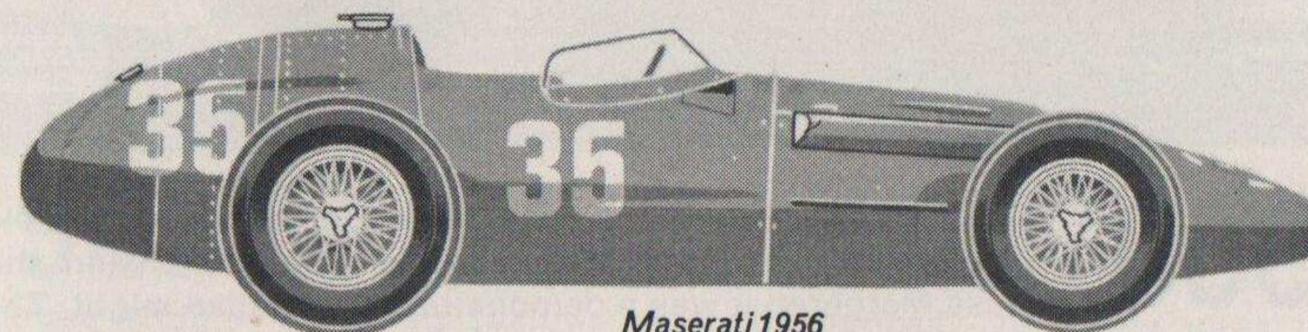
1952 Alfa Romeo really had retired and the race, at Spa under Formula 2 rules, was a walk-over for the new Colombo twin-cam four cylinder de Dion back-axle Ferraris. Ascari, taking the World Championship lead, won from Farina, at 103.13 m.p.h., well ahead of Manzon's Gordini. The third "works" Ferrari, Taruffi's, had slid into a ditch. Hawthorn's Cooper-Bristol was 4th, bringing home the Winston Churchill Cup, but Stirling Moss' E.R.A.-Bristol lasted only half a lap.

1953 The European title was conspicuous by its absence, racing being at a low ebb. The 1½ litre supercharged, 4½-litre non-supercharged formula having been in existence for seven seasons, a change was to be made in 1954, to 750 c.c. supercharged, up to 2½-litres non-supercharged. Mercedes-Benz, predominant in 1908 and again in 1914, were preparing new straight-eight petrol-injection cars, which were destined to gain five major victories in 1954, of which Fangio took four.

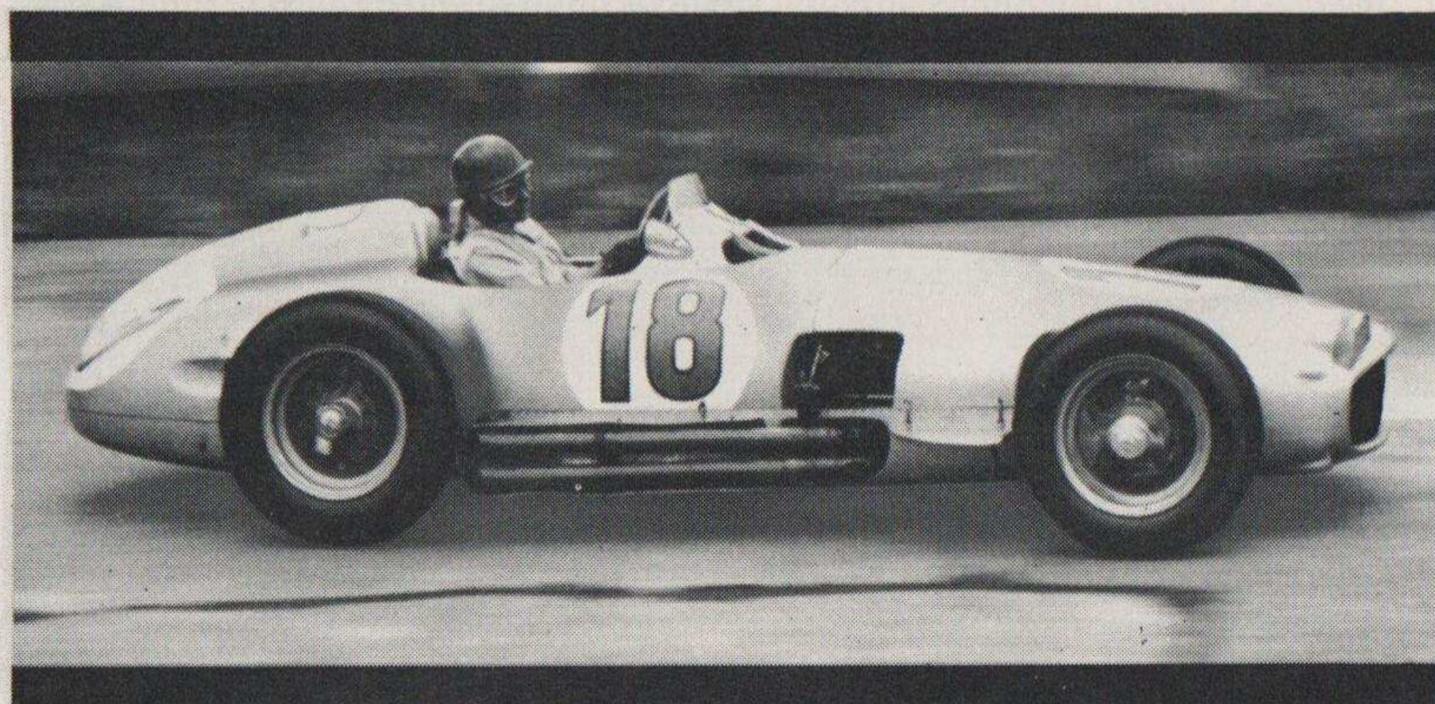
Brilliant newcomer—Hawthorn 1952



Mercedes-Benz 1954



Maserati 1956



1954 After a poor 1953 season with no European title, racing revived under the new 2½-litres non-supercharged formula and the Germans filled the tortuous Nürburgring to see Mercedes-Benz vanquish the opposition. Fangio led comfortably, Kling ignoring Neubauer's pit-signals tried to close until a suspension breakage delayed him. This let Hawthorn, in Gonzales' Ferrari, into 3rd, Trintignant (Ferrari) into 4th place. Fangio won at 82.9 m.p.h. Kling made fastest lap.

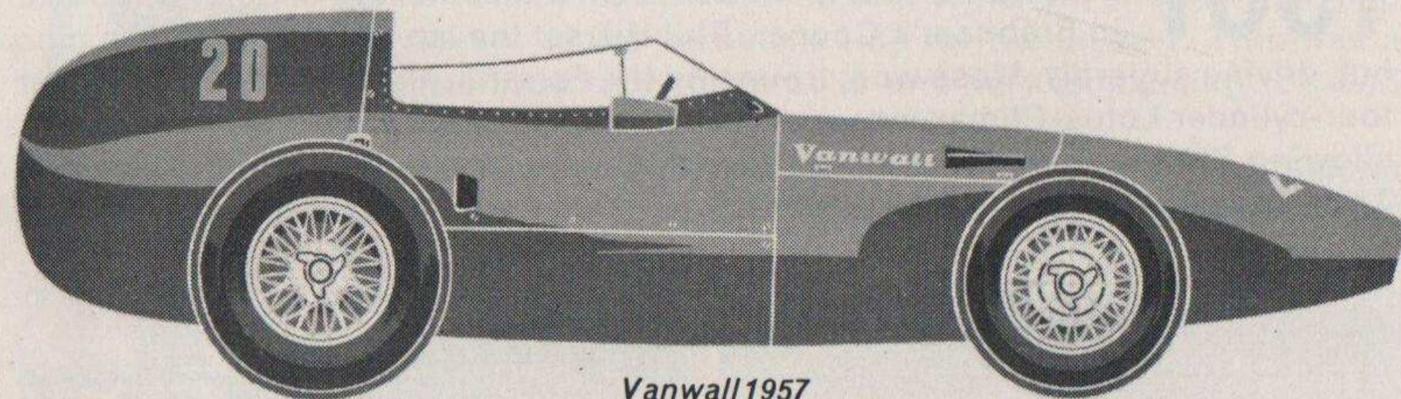
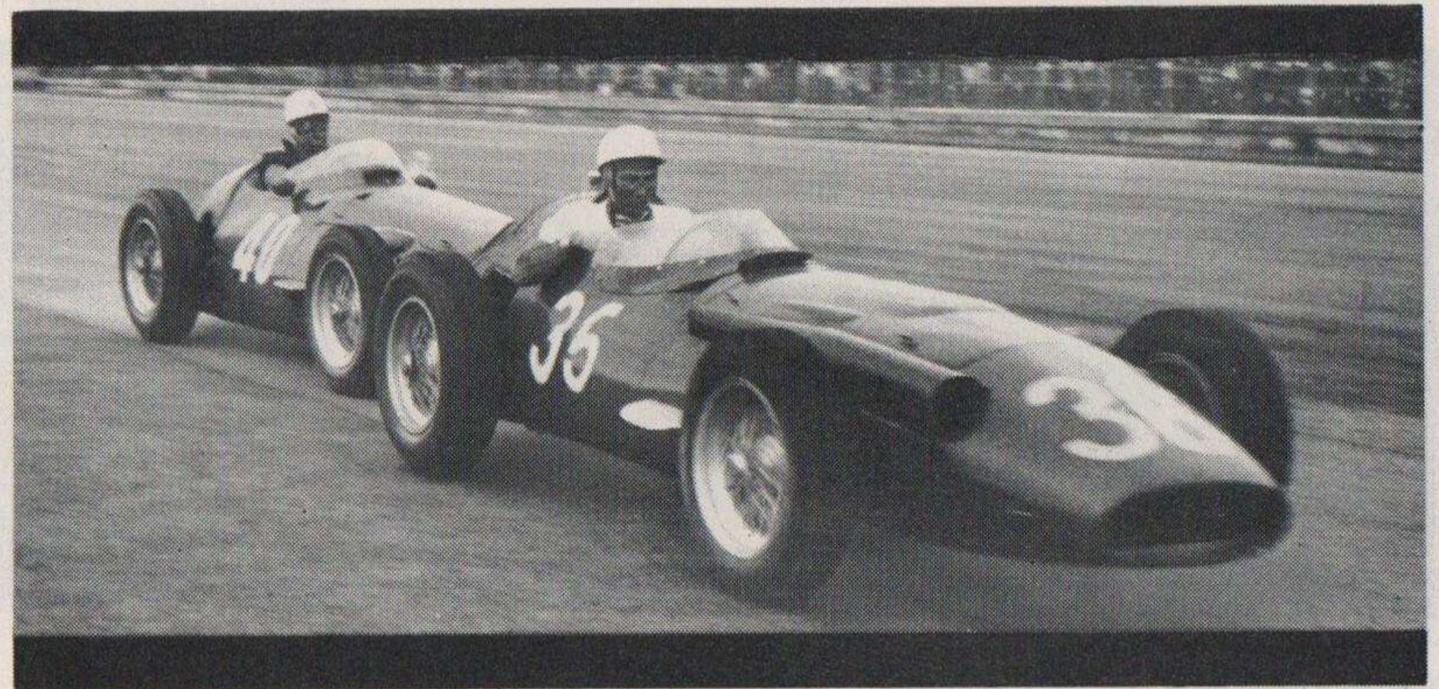
1955 The title was contested for the first time round the difficult Monaco road circuit. At half distance, when it looked as if nothing could stop Fangio's short-chassis Mercedes-Benz, it broke its transmission. Moss took the lead, but his Mercedes went out in a cloud of smoke. The race must surely go to Ascari? Came drama! His Lancia slid at the harbour chicane and fell into the sea. While frogmen rescued the surprised driver, Trintignant's Ferrari took the flag.

Fangio in the all-conquering Mercedes-Benz

1956 The Gran Premio d'Europa, over 50 laps of the Monza road-cum-banking circuit, ran to a vivid finish. The fast Vanwalls had broken up. Moss was nicely in the lead in a new Maserati 250F1 when his fuel tank ran dry. Stirling signalled Piotti to push him to the pits. Refuelled, Musso's Lancia-Ferrari having passed, Moss raced on, a rear tyre treadless, to a new lap-record. Musso's steering broke; the Maserati won, 5.7 sec. ahead of Fangio's Lancia-Ferrari.

1957 Victory for a green car. The race, actually the 10th British Grand Prix, was at the new motor race circuit outside the Grand National course at Aintree. Tony Vandervell fielded Moss, Brooks and Lewis-Evans in Vanwalls. Stirling early pulled out all the stops but trouble developed; Brooks was brought in and Moss resumed in his Vanwall and climbed steadily up from 9th place to win. The other Vanwall would have been 2nd but a throttle-connection fell off.

Moss gets a push



Vanwall 1957

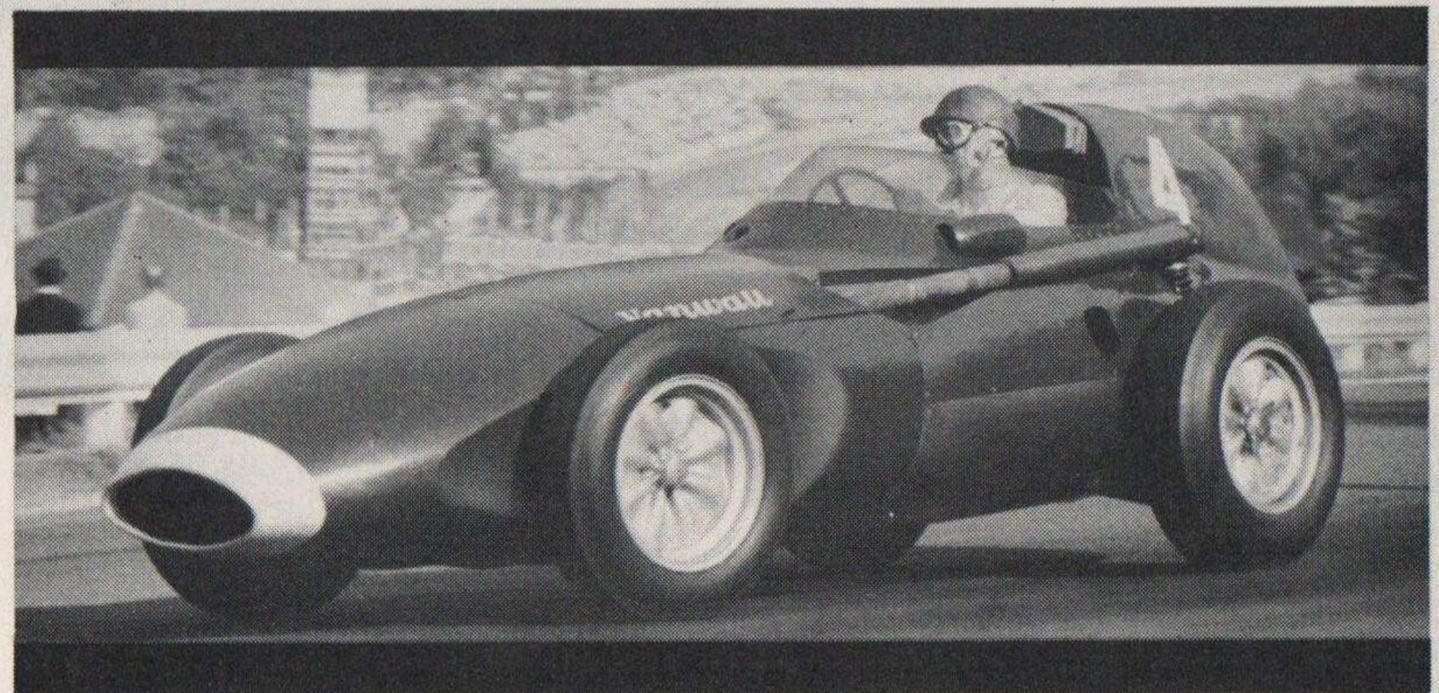


Ferrari 1959

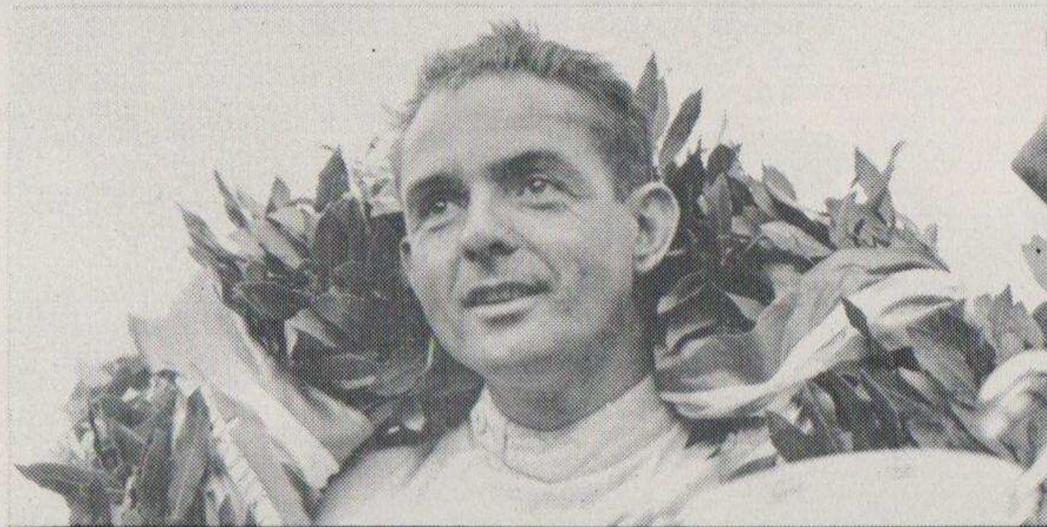
1958 The same Vanwall team as before raced under a hot sun at Spa. Competing against Ferrari, Maserati, B.R.M., Cooper and Lotus, still to the 2½-litre formula but burning petrol only, Tony Brooks drove to a popular victory at 129.9 m.p.h. Lap-record-breaking Mike Hawthorn chased him hard in a V6 Ferrari, finishing 20.7 sec. later as the meat in a Vanwall sandwich, for Lewis-Evans was 3rd. All three cars were in a sorry state at the end.

1959 Reims in torrid heat, drivers assailed by flying stones, lumps of tar. Tony Brooks, now driving for Ferrari, did it again, winning a well-driven race in the Dino V6 at 127.5 m.p.h. Stirling Moss should have been second but he spun his B.R.M., stalled its engine and, as the clutch had gone solid, could not restart in spite of immense personal efforts. So Phil Hill eased up to make sure of 2nd place for Ferrari and Jack Brabham in a Cooper-Climax settled for 3rd.

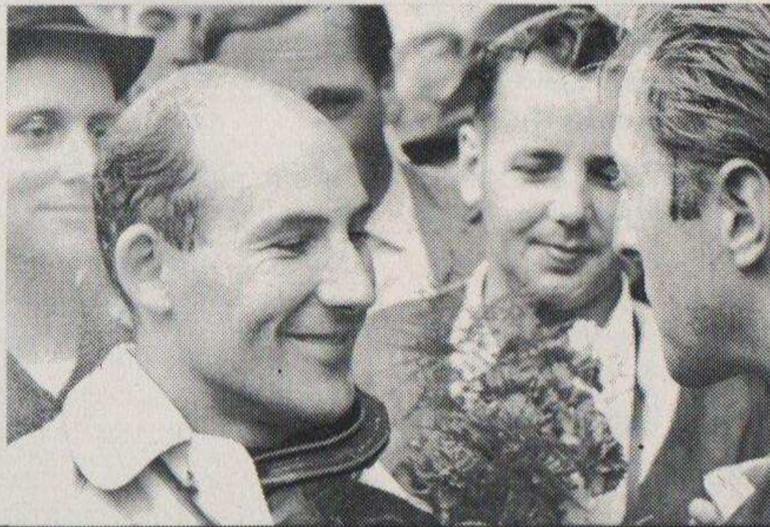
Brooks (Vanwall) Spa 1958



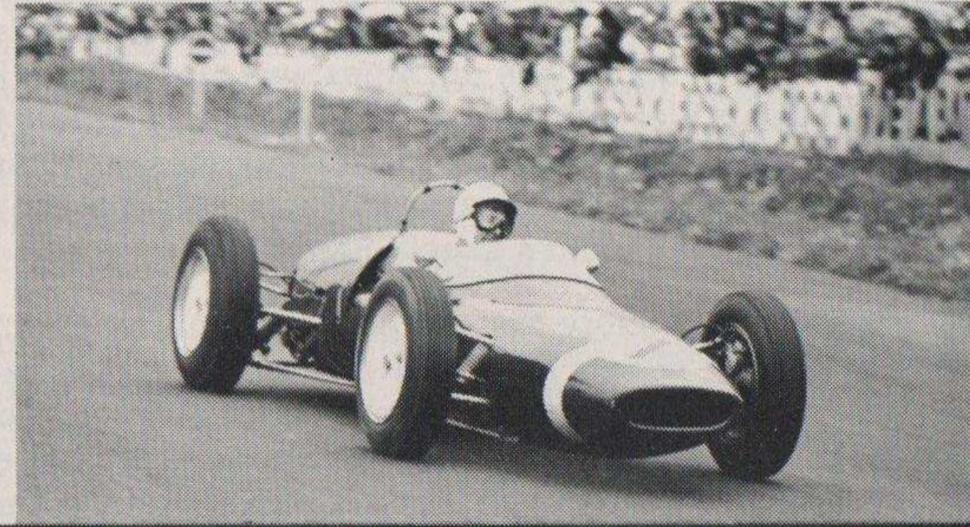
Phil Hill Monza 1960



Moss triumphant 1961



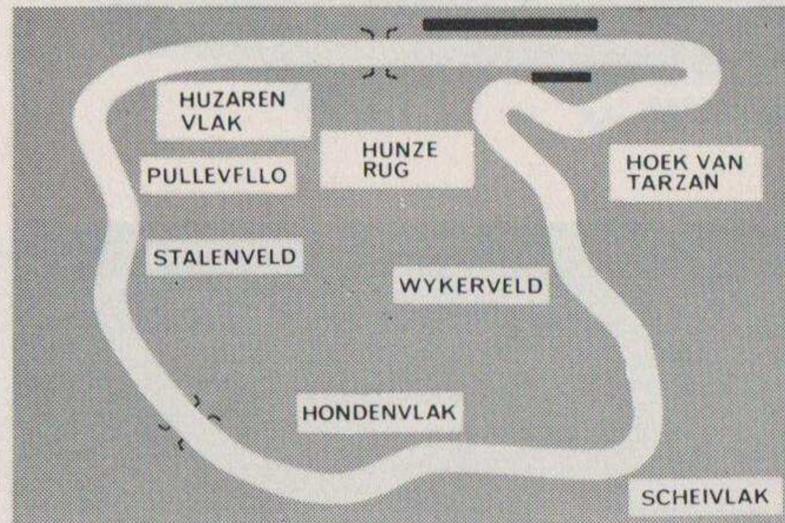
Moss during his classic drive



1960 Sixteen cars, nine with Italian engines, three German and four Cooper-Climax, lined up for another 50-lap race over the banked Monza Autodrome. It was a very fast "dice", Phil Hill, the American, setting the lap-record at over 136 m.p.h. and winning in a Ferrari Dino 246 at the record race average of 132.1 m.p.h. with two stops for tyres. The Dino 246s of Ginther and Mairesse were 2nd and 3rd. Cabianca's Cooper-Ferrari beat von Trips' F2 Ferrari into fourth place.

1961 At the Nurburgring the V8 Coventry-Climax engine, then developing nearly 180 b.h.p. (it is still making history) appeared in Brabham's Cooper. Phil Hill set the lap-record to 94.96 m.p.h., but, driving superbly, Moss won, trouncing the Ferraris, although his Rob Walker four-cylinder Lotus-Climax was giving away 20 h.p. Rain fell for the closing laps, allowing Stirling to make good his advantage—he won by 21 seconds from von Trips and Hill (Ferraris), at 92.33 m.p.h.

Zandvoort



Trumpet voluntary BRM Zandvoort



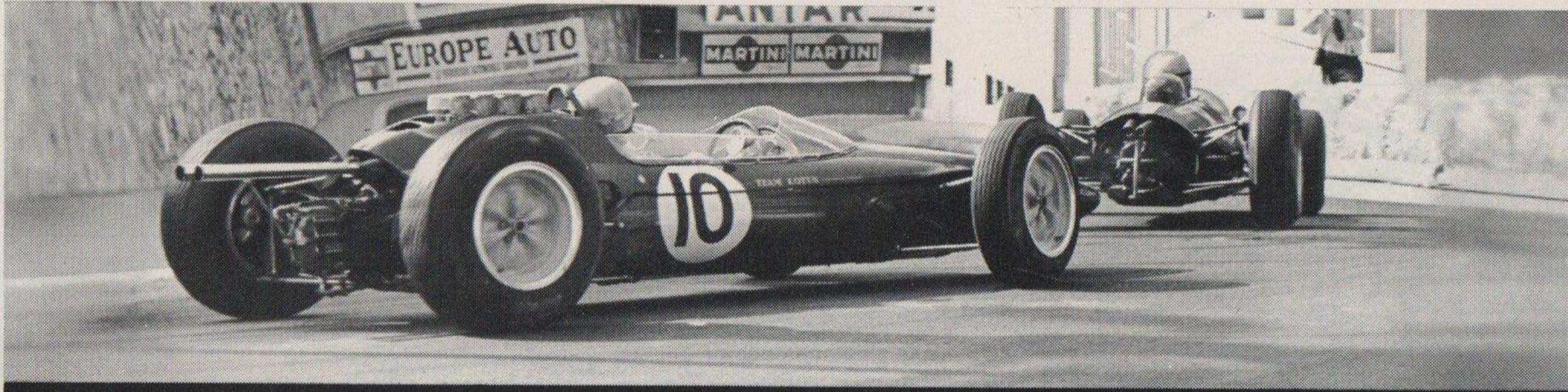
Clark captured!



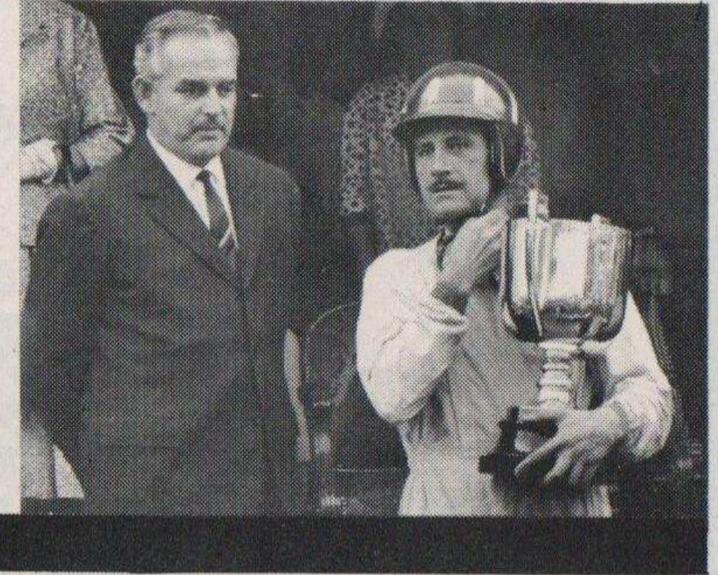
1962 Amid the sand dunes of Zandvoort, in Holland, the Grand Prix d'Europe was contested by a first class field of twenty cars. The starting-grid included 6-speed V6 Ferraris, Jim Clark in the latest Lotus 25 supported by Trevor Taylor's Lotus 24, flat-four and flat-eight Porsches, 4 cylinder and V8 Cooper-Climaxes and Graham Hill and Ritchie Ginther in the Owen Organisation V8 5-speed B.R.M's. Other drivers included Phil Hill, Giancarlo Baghetti, Dan Gurney and Bruce McLaren.

To start with Clark led, but his Lotus' clutch refused to grip and he fell right back. Graham Hill had meanwhile built up a commanding lead for B.R.M.; a make once the object of bitter scorn, lapping Baghetti's Ferrari 40 laps from the end, to win at 95.44 m.p.h. McLaren drove well for Cooper until a shaft broke in the gearbox, and Gurney's new Porsche retired with gear shift trouble. Taylor came up fast in the closing laps to finish second. Phil Hill's Ferrari was third. No-one else ran the full distance and only half the field finished.

Follow my leader around the houses



Hill victorious



1963

Fought out over the tight little Monaco circuit with new blocks of flats on the hill as a backcloth and the sparkling waters of the harbour a trap for the unwary. This was a real road race, hazardous and very exhausting for men and machines, as the pattern of the race showed.

Makes like A.T.S., Sirocco and de Tomaso never even made the start. Brabham broke a valve in practice but contrived to be amongst the fifteen who prepared

were really racing! Three laps later Clark again passed Ginther and was duelling with Hill, who sportingly gave the Lotus room to go into the lead at Gasworks. This was magnificent motor racing, Clark found that the B.R.M. could out-accelerate him and it was side-by-side stuff past the pits, through the town and along the harbour front. At 21 laps Clark drew away, Surtees came up to chase Hill, Ginther fourth, McLaren fifth.

At half-distance Clark led by 8½ sec. Surtees, oil from the B.R.M. covering his

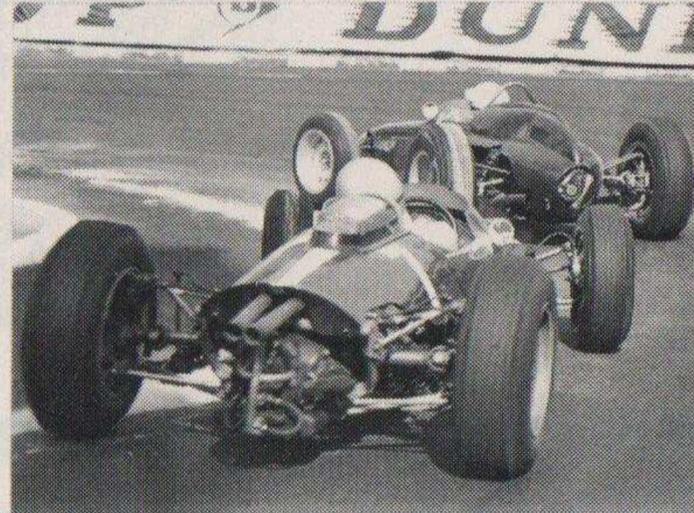
Examination—



concentration—



acceleration—



documentation

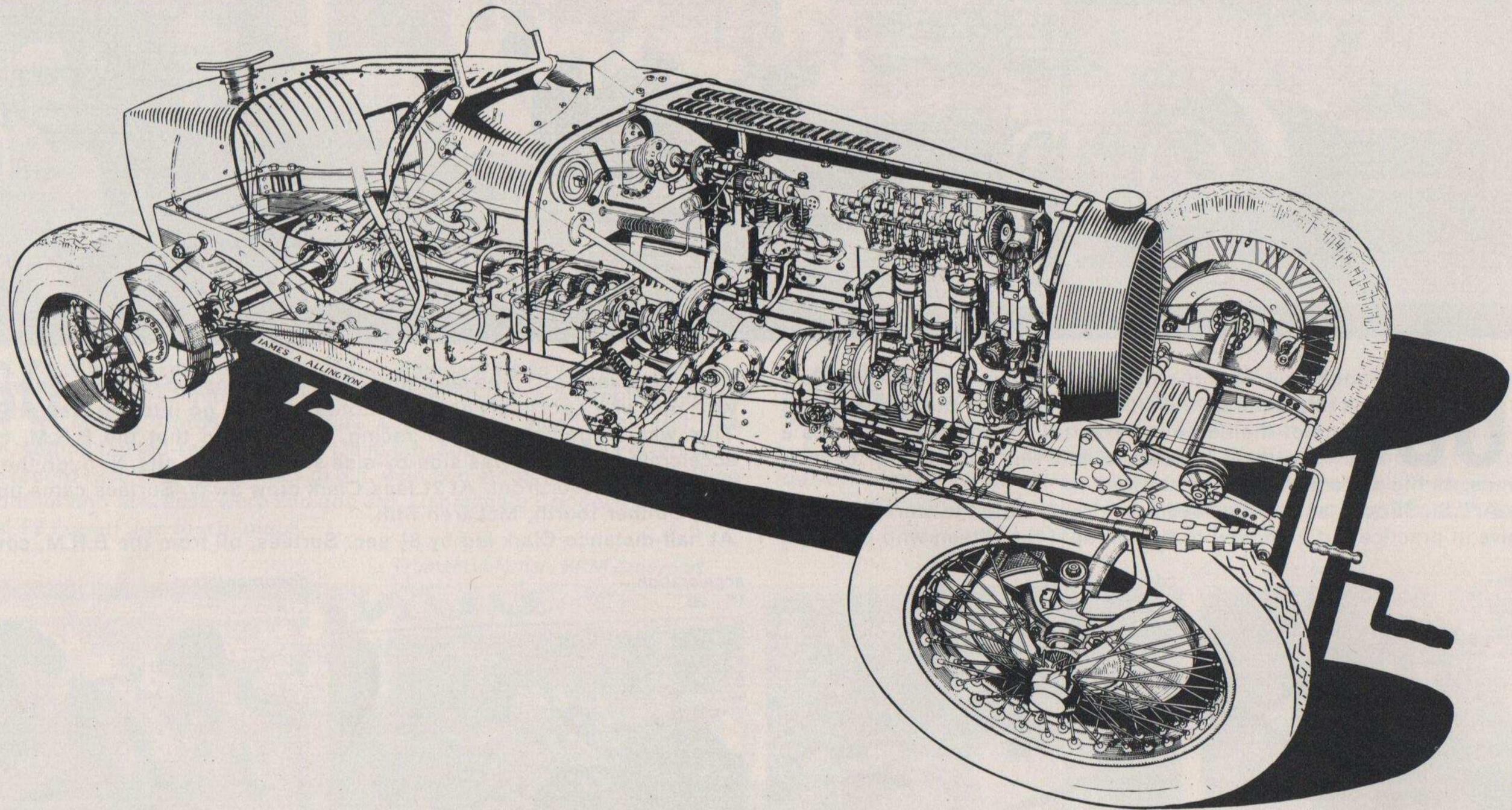


in the hot sunshine to face their 100-lap ordeal. They got off well, rubber-smoke rising as in a crescendo of rage the green and red cars roared away, the B.R.M.s of Hill and Ginther leading from Clark's Lotus-Climax and Surtees' V6 Ferrari, the rest of the field in hot pursuit.

Clark had set fastest practice time but now had his work cut out to pass the cars from Bourne. After seven laps he slipped by Ginther at Gasworks hairpin. Then he took Hill, only to run wide at Station hairpin and let both B.R.M.s repass. All three

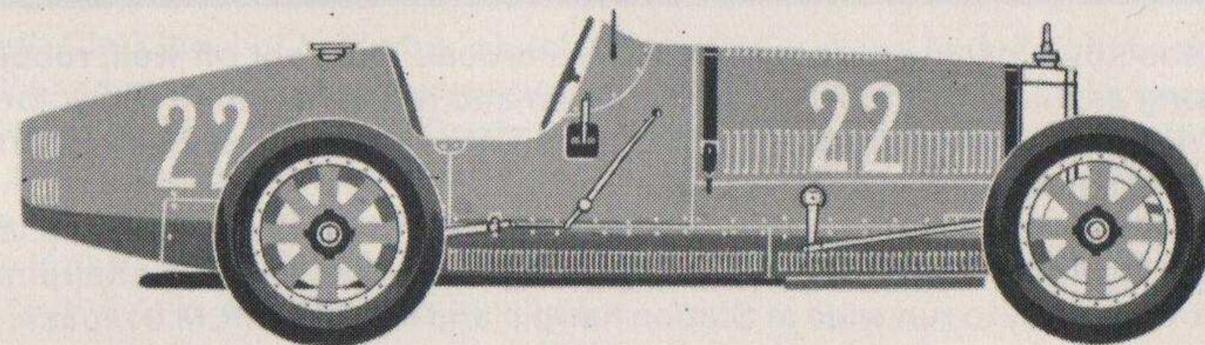
face, took Hill going up to the Casino but let the B.R.M. repass while he pulled on clean goggles; failing oil pressure on the Ferrari then undid all his hard work which was bad luck indeed.

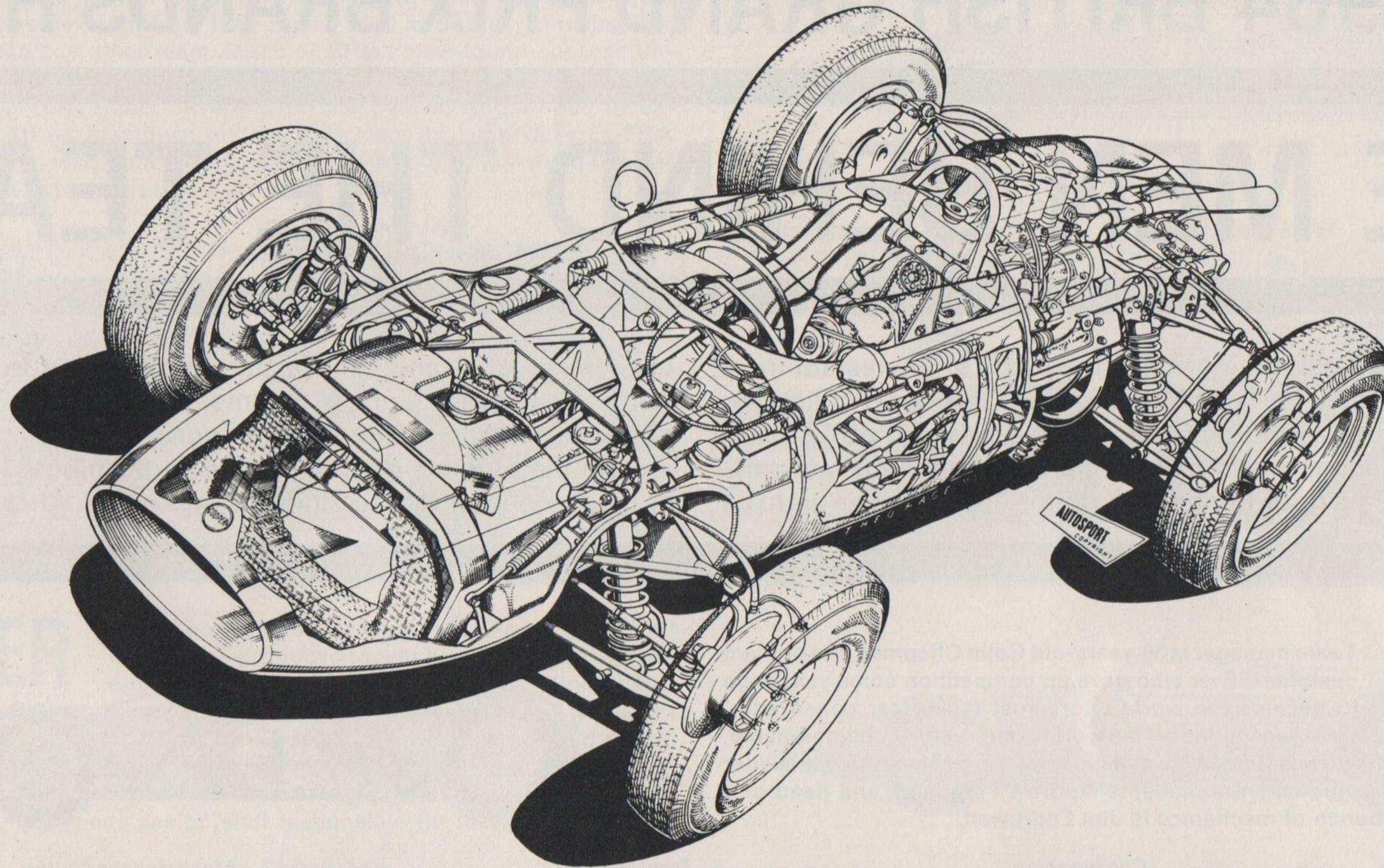
On lap 79 Clark's race was over; the gears of the Lotus jammed in and locked the back wheels. World Champion Hill drove on to win, in 2 hrs. 41 mins. 49.7 sec., a speed of 72.42 m.p.h., team-mate Ginther second, McLaren third ahead of Surtees, who had set a new lap record.



1924 BUGATTI TYPE 35

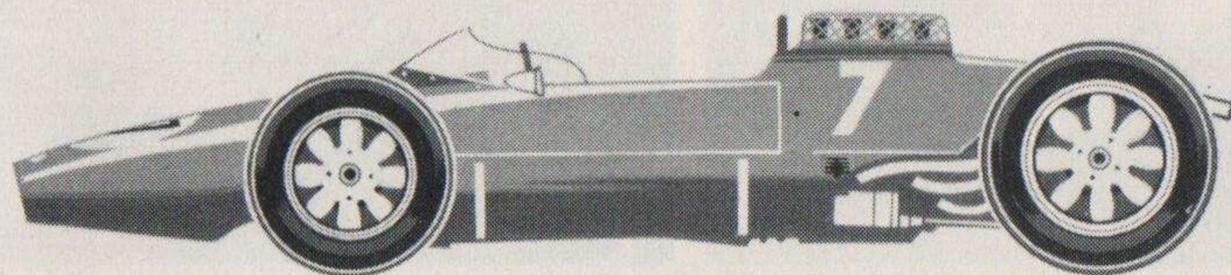
This classic car set new standards on its introduction in 1924. Driven by both "works" and private owners, it scored 1,045 victories in 1925/1926 alone, winning for itself the world's most successful G.P. car title. With wonderful handling combined with exquisite workmanship and superb body styling, it is considered by many to be the perfect example of the constructor's art. The cutaway shows a T-variant with wire wheels creating a contrast with the Cooper opposite. Engine 1990 cc straight eight, 105 b.h.p., 4-speed gearbox. Top speed 110 m.p.h.





1963 COOPER F1

This car stems from a line of rear-engined machines starting with the early 500 cc Formula and it can be truthfully said that the modern conception of the GP car emanated from this works. Not monocoque, some tubes in the multi-tubular chassis are used to carry coolant. Independent suspension by wishbones, dampers and helical springs supports the chassis carrying the rear mounted Coventry Climax engine. It is worth comparing this car with the rear-engined Benz (page 2). Engine 1496 cc V.8; 190 b.h.p.; 6-speed gearbox. Top speed 160 m.p.h.



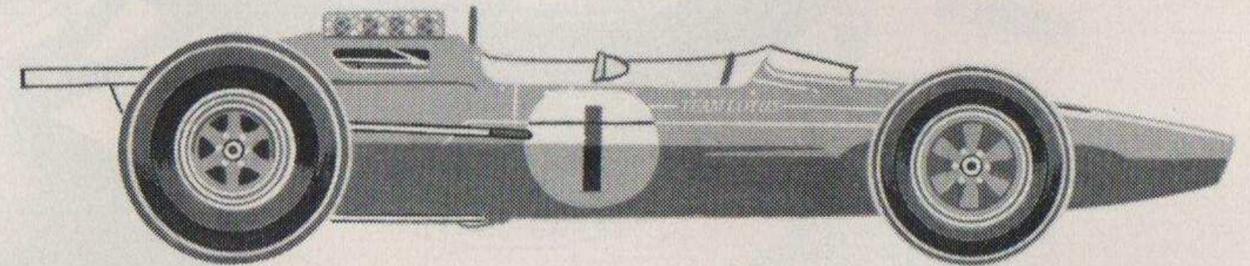
THE 1964 BRITISH GRAND PRIX BRANDS HATCH

THE MEN BEHIND THE TEAMS

The men at the wheel are inevitably the focus of interest for most motor racing spectators. For them it is the Clarks and Hills who matter. But motor racing would be nothing without the untiring efforts of manufacturers and team organisations which bring the cars to the starting grid. Behind the glitter, the glamour and the

excitement of Grand Prix racing is a devoted body of men for whom a sleepless night is commonplace, an eve-of-race engine change a routine matter, and the quest for mechanical perfection always the ultimate goal. On these pages tribute is paid to some of these highly skilled technicians. ALAN BRINTON Editor *Motor Racing*

LOTUS Team manager is 36-years-old Colin Chapman, the brilliant designer-driver who gave up competition some years ago to become the world's foremost racing car constructor. His monocoque GP car last year pulled off the world constructors' championship, and gave Jim Clark the drivers' title. Able and hard-working competition manager at Cheshunt, where Lotus cars are made, is Andrew Ferguson, and head of a cheerful and skilful bunch of mechanics is Jim Endruweit.



Chapman fully reclining



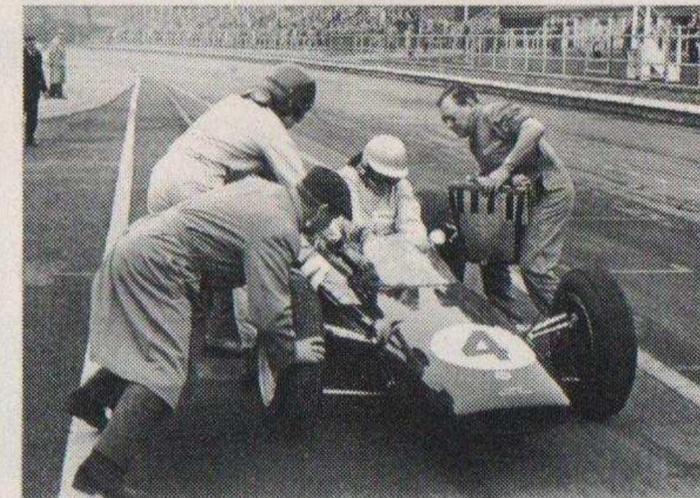
Cog swapping



Team line-up



Musical chairs Aintree



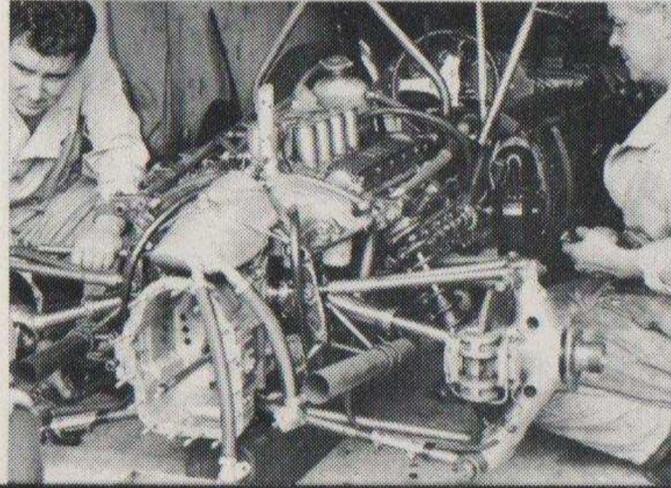
BRM

Despite years of dismal frustration, BRM have probably attracted more devotion from their racing staff at Bourne, Lincolnshire, than any other team. Much of BRM's new-found success undoubtedly stems from painstaking work by their chief engineer, self-effacing Rolls-Royce-trained Tony Rudd. Several BRM mechanics, who are led by ex-Vanwall man Cyril Atkins, have been with the team since its darker days. Ex-ERA driver Raymond Mays, who fathered the original BRM project, is still a familiar figure at the circuits as race director.

Mays studies form



Complexity increases



Tony Rudd



Monocoque for '64



COOPER

John Cooper, who, with his father, Charles, pioneered the volume-produced racing car and with their rear-engined 500 cc machines set the pattern for today's GP cars, runs the Cooper works GP team. He is often assisted by Ken Tyrrell (who also runs saloon and F3 teams for Coopers). The Surbiton-based racing team is housed in modest premises, where Mike Barney and Hugh Frankland head the team of racing mechanics. A comparative new-comer to the drawing office is Neil Johanesen, who leads design staff responsible for this year's F1 cars.

John Cooper watches



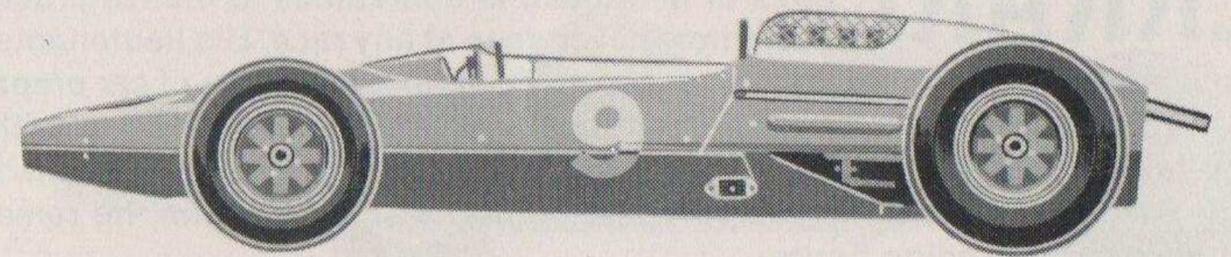
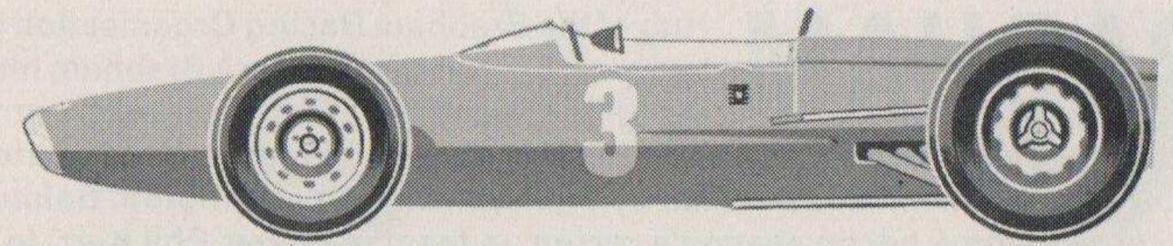
Cockpit check



Doughnuts for tyres ...

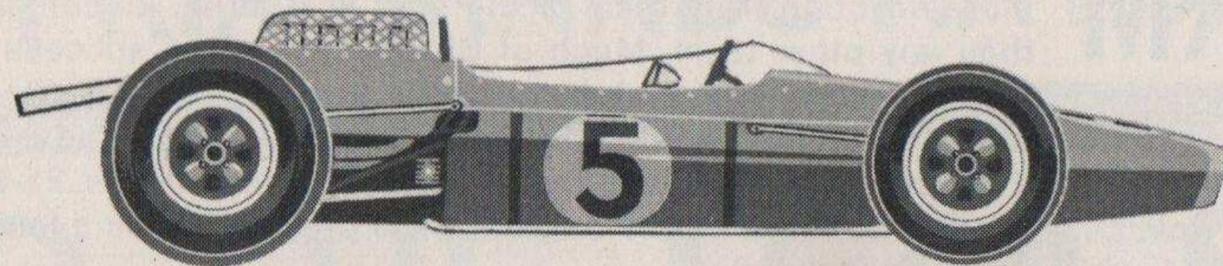


chips for mechanics



BRABHAM

Hub of the Brabham Racing Organisation is the two-man design team of Jack Brabham himself and fellow Australian Ron Tauranac, currently producing perhaps the best-handling GP cars. Now installed in headquarters at Byfleet, the racing mechanics are led by Tim Wall and Roy Billington. Behind the scenes, organising a hectic season's racing, is team manager Phil Kerr. In their first full year of GP racing, Brabhams finished third in the constructors' cup contest, though an outright win eluded them.

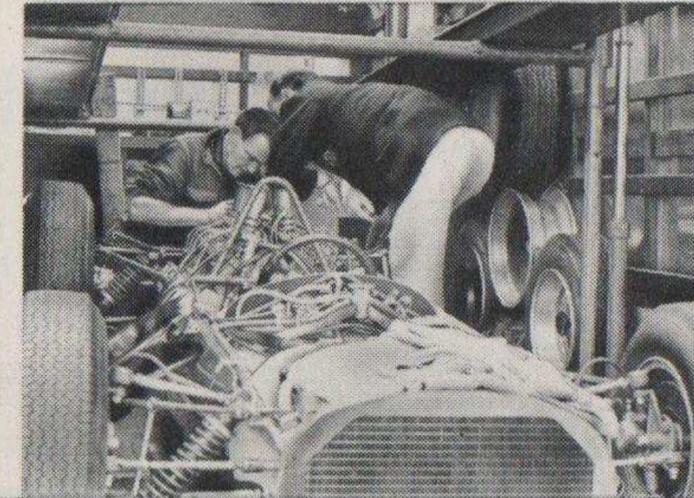
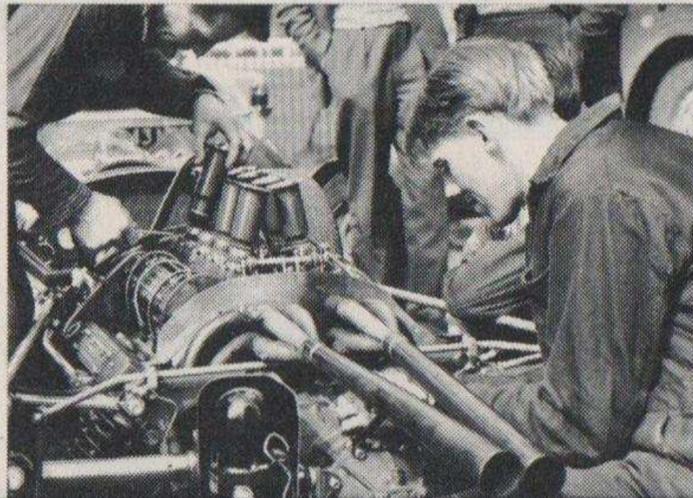


Breathing by Brabham

Australian outback

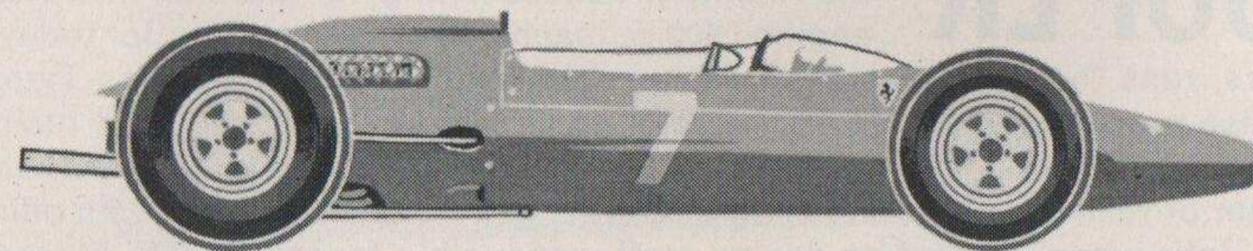
V8 adjustment

Undercover work



FERRARI

Enzo Ferrari really is the man behind the scene. The boss of Maranello is sometimes at Monza practice, but is now never seen at any race. His lieutenants on the spot are a serious young engineer, Mauro Forghieri, in charge of car preparation, and Eugenio Dragoni, who is team manager. Ferrari also has a wealth of design talent, amongst whom probably most significant is Franco Rocchi. But though Enzo Ferrari is willing to delegate authority at the circuits, he remains very much the controlling figure.

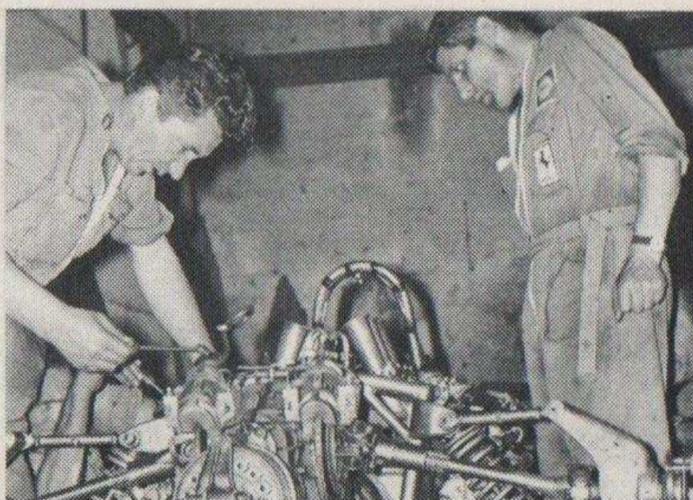


Enzo Ferrari

Midnight oil

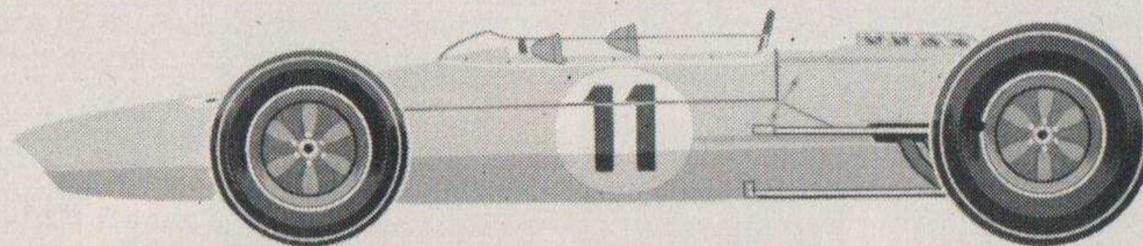
Dragoni & Forghieri

Pipedream!



BRP

Technical director of the British Racing Partnership is jovial Tony Robinson, responsible for the BRP monocoques—the first of which, he claims, was very much a rule-of-thumb effort. Stirling Moss and his father Alfred are members of the Partnership, along with Ken Gregory, who directs the team's day-to-day affairs, at the circuits and at BRP headquarters in Highgate. For years an important force in racing, BRP graduated from using 'off-the-shelf' machinery to become constructors in their own right.



Alfred Moss



Paddock warm-up



Tony Robinson

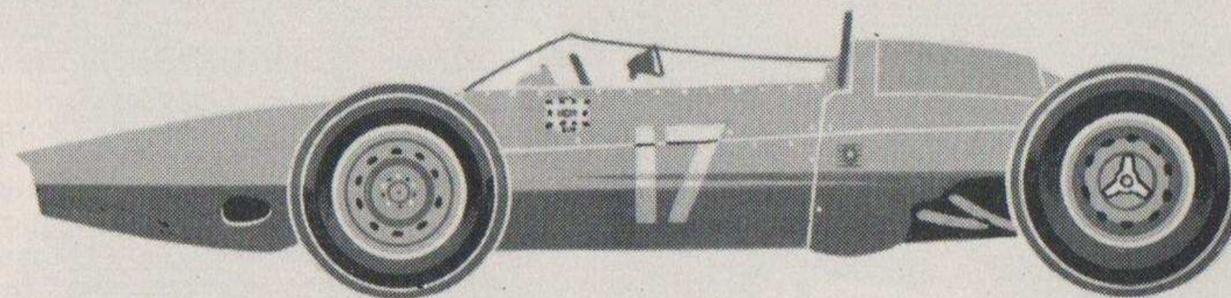


Pre-race check



CENTRO-SUD

For several years, the Italian GP challenge has been reinforced by Scuderia Centro-Sud, an independent organisation formerly based at Modena. Controlled by Guglielmo 'Mimmo' Dei, the team last year moved to Monza, where this capable organiser also runs a school for racing drivers. Dei's decision to race spaceframe BRMs this season was influenced by his 1963 experience with one of these cars, and its performance in the hands of Lorenzo Bandini before he returned to Ferrari.



'Mimmo' Dei



Covers off



Pit conference



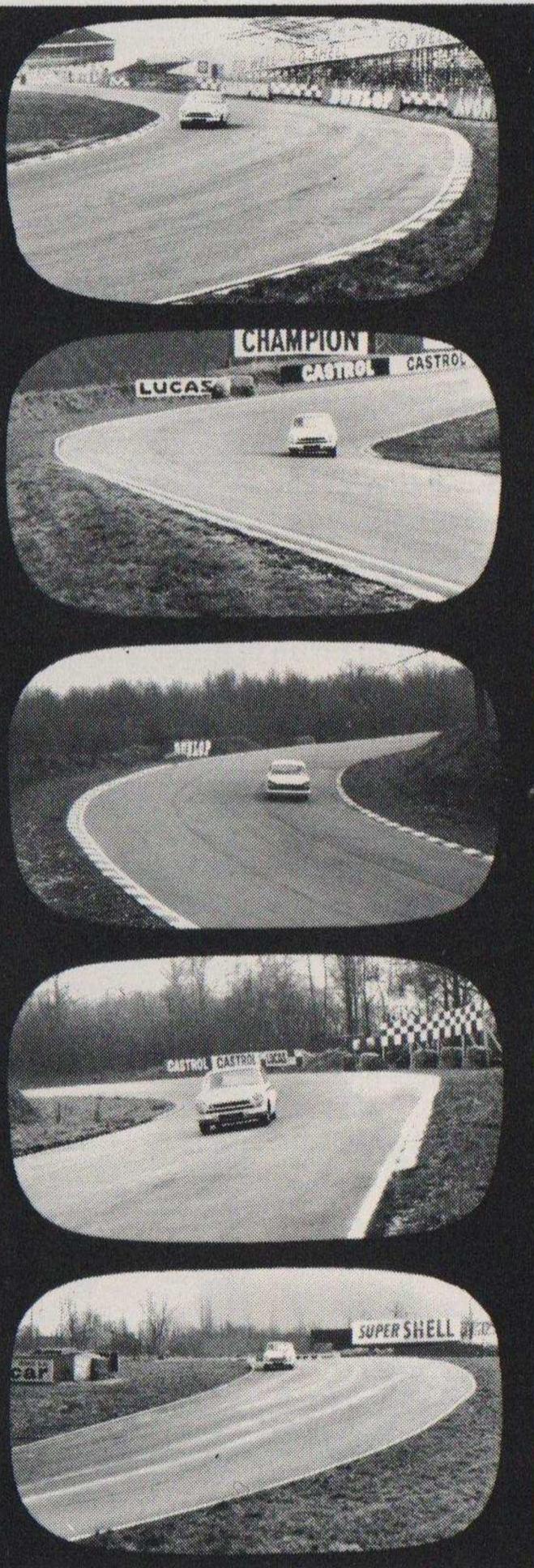
Final adjustments



THE GROWTH OF BRANDS

The 1964 European Grand Prix marks the first occasion on which Brands Hatch has been used as the venue for a world championship Formula 1 race. This is an important milestone in the history of a circuit which started life before the last war as a modest little motorcycle grass track. It was much the same when motoring competitions restarted after the war, and it was not until 1950, when the kidney-shaped one-mile course was tarmac-dressed, that the first car racing, a 500 cc Formula 3 meeting, took place. In those days the cars used to race in an anti-clockwise direction, but the switch to the more customary clockwise direction came in 1954, when a new loop was added at one end of the circuit to include the hairpin known as Druids Hill Bend. The change meant that Paddock Hill Bend became a downhill right-hander, and it soon became respected as one of the most difficult corners on any race circuit. With the new loop in operation, the Brands Hatch circuit length increased to 1.24 miles, but the most significant stage in the growth of Brands, which is not only ideally placed some 20 miles South East of London but also offers unparalleled viewing facilities for spectators, came in 1960 with a large extension cut through the woods backing the short circuit. The full circuit measures 2.65 miles to the lap, which a Formula 1 car can cover in under 100 seconds, and with 12 corners or curves to a lap, and many changes of camber and gradient, it is universally rated as a fitting test for any grand prix driver.

JOHN BLUNSDEN Editor **Sportscar**



◀ **Paddock Hill Bend.** Drivers usually take this tricky right-hander from slightly left of centre, cutting across to clip the right edge at the steepest part of the drop. (80 mph)

▶ **Druids Hill Bend.** The slowest on the circuit, the hairpin is approached from the left, the cars taking the second part close in to the right before swinging out left again. (35 mph)

◀ **Bottom Bend.** Swinging across from the right of the track, the cars clip the left edge at the apex before swinging out right again as they accelerate away. (70 mph)

▶ **South Bank Bend.** A long sweeping left-hander, approached very wide on the right side, enabling drivers to cut across to the left for the second part before swinging wide again. (70 mph)

◀ **Hawthorn Bend.** At the end of the fastest part of the course, this is an uphill fast right-hander, the cars swinging across to the right quite late and clipping the left edge coming out. (95 mph)

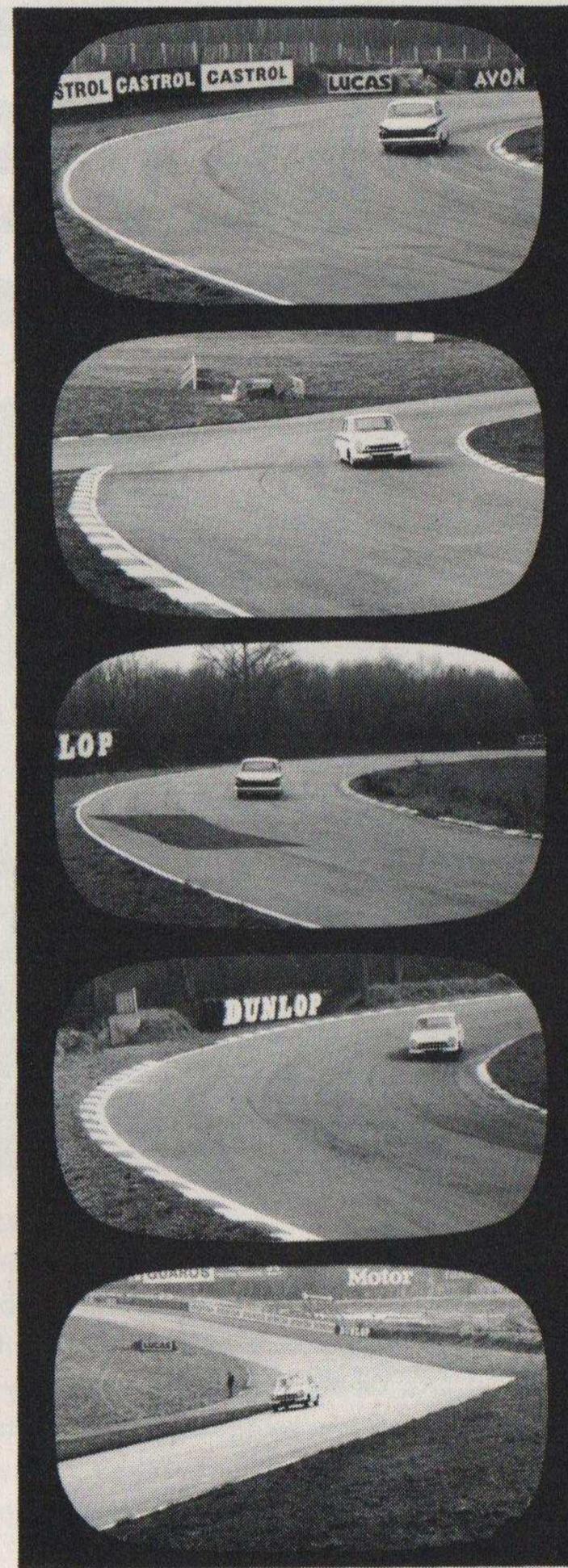
▶ **Westfield Bend.** Slower than Hawthorn, approached from the extreme left side then 'smoothed out' by clipping the right edge on the apex, it has a fast downhill exit. (70 mph)

◀ **Dingle Dell Corner.** A blind uphill approach makes this a tricky corner. Drivers need every inch of road on the left entering and leaving to reduce its sharpness. (50 mph)

▶ **Stirling's Bend.** Sharper than it seems, a left-hander which must be taken very late from the right of the track to allow room to swing out when accelerating away. (40 mph)

◀ **Clearways.** Approached very fast on the left, it tends to pull the car further to the left if the driver fails to cut across to the right at the correct moment. (70 mph)

▶ **Top Straight.** An undulation before the pits needs care, and drivers normally take a line just right of centre, moving over to the left as they approach Paddock Hill Bend. (110 mph)



TELEVISIONING THE GRAND PRIX

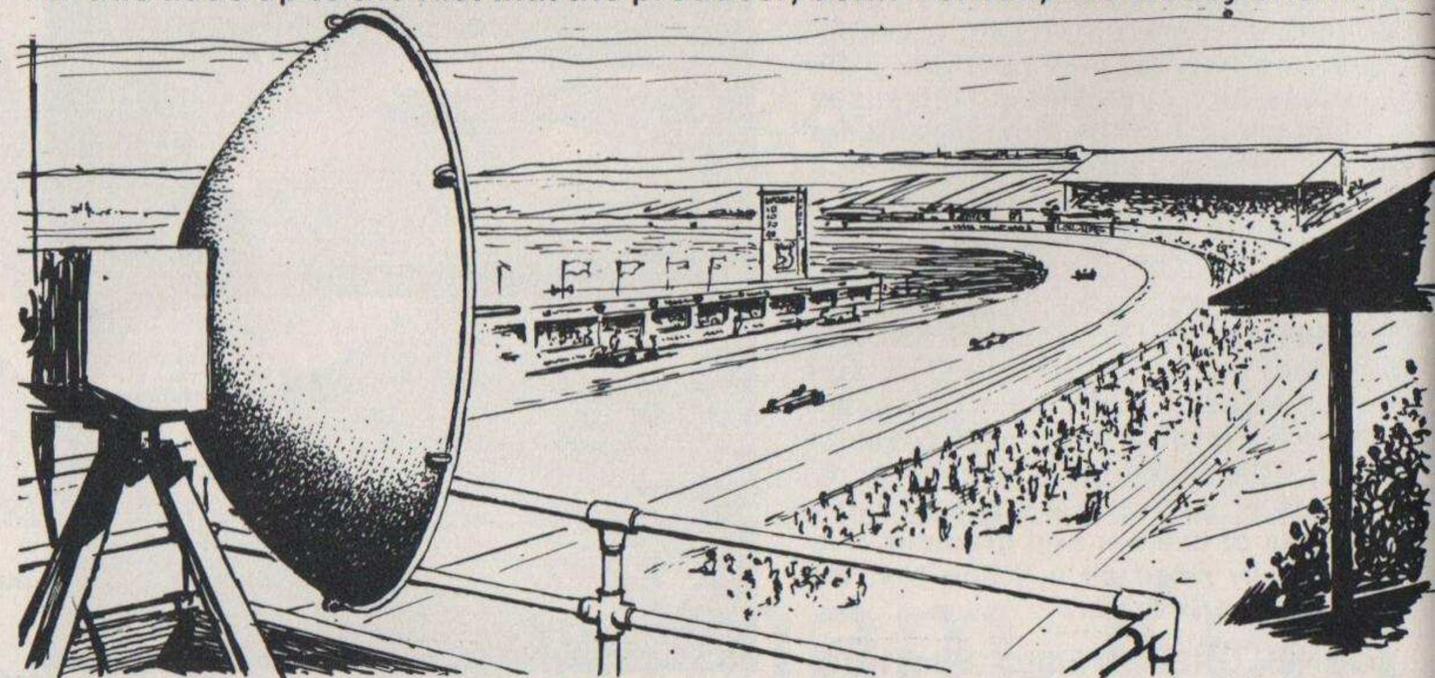


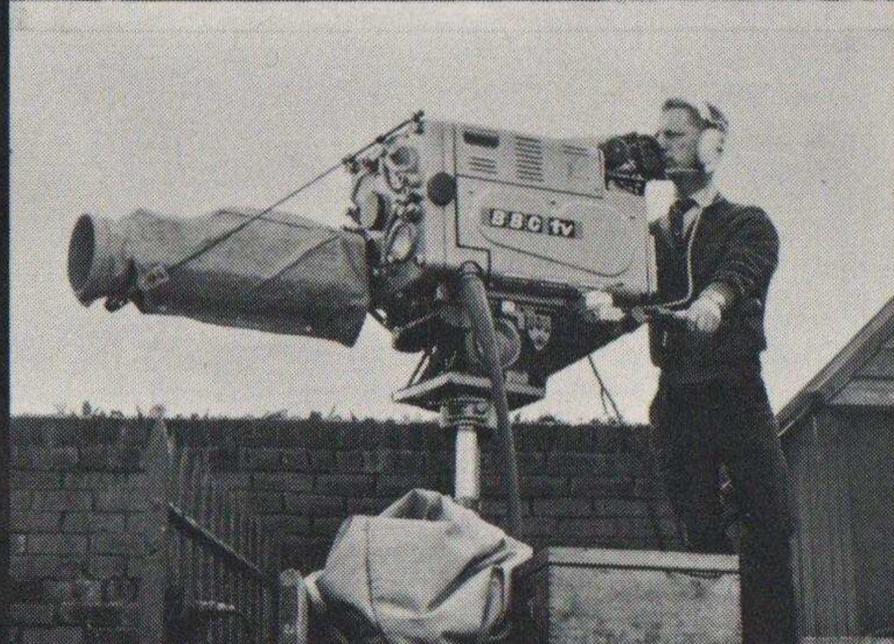
Like any job worth doing, televising a motor race presents its little problems. First, we have to get the event into the Programme Planners' schedules, and that is never a foregone conclusion. Despite television's voracious appetite for material, air space is a valuable commodity—ask the boys who do the commercials! Thus although we, as motor-racing enthusiasts, can never get enough of our sport on television, whenever we succeed the cricket, horse-racing, boxing, tennis or swimming fans are infuriated beyond words. So it's a fight from the word 'go', believe me.

Secondly there are the technical problems of getting the picture on to your screen. At Brands Hatch the engineers are laughing—or as near to laughing as these hard-working chaps ever allow themselves. In the electronic sense The Hatch is within 'striking distance' of the BBC mast at Crystal Palace. The vision signals are sent there direct on a private ultra short-wave frequency from the big 'fire escape' aerial of our mobile transmitter behind the main grandstand. Thence out they go again on the normal BBC television frequency to be picked up by your aerials at home. Our sound signals, i.e. commentary and effects, make the journey by land line.

The situation is a shade complicated by the fact that we also use another internal radio link between our 'remote' point, with two cameras out at Hawthorn Bend, and our main control position behind the Pits Grandstand. We even have a third internal link for our radio camera in the pits area. This is carried by the Martian-like figure with the ski axle sticking out of his ear.

All this adds up to the fact that the producer, John Vernon, has a busy afternoon





ahead of him. Seated in his Mobile Control Room he can see, on his monitor screens, the picture offered by each of the five cameras in his area and the output picture selected by an assistant producer from our two 'remote' cameras. He is in voice contact with all the cameramen and the assistant producer. They can answer back, but seldom have the breath. The cameramen use their initiative of course, but it is the Producer who must direct the shots, calling for coverage of a particular car or cars, and making sure that this coverage is a continuous process. Showing a group of cars for a few seconds on one camera and then cutting to an entirely divorced group on the next is confusing to the viewers. Not to mention the commentator.

And this cohesive coverage of a race is a very difficult undertaking peculiar to motor racing. In a horse race, the whole field is bunched into the space of a few yards. Come the end of a motor race and for yards read miles.

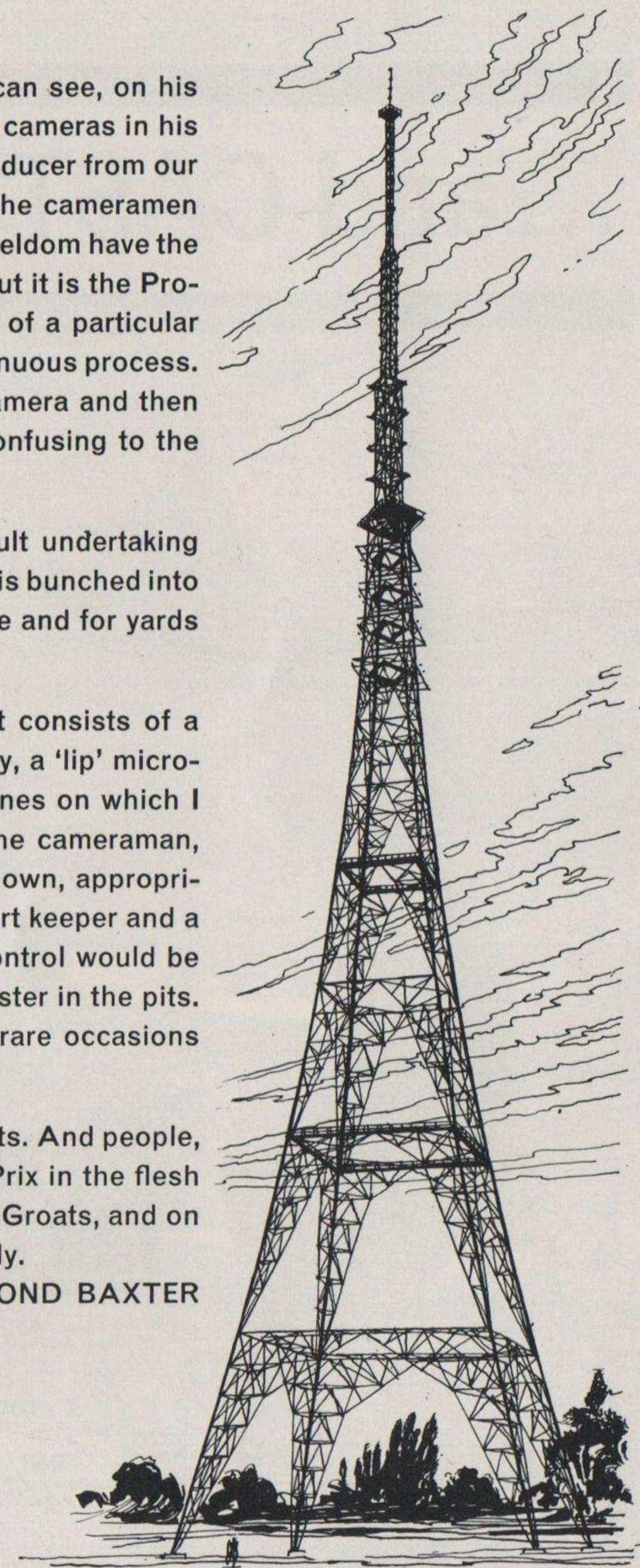
For my part as commentator, my technical equipment consists of a monitor screen, on which I see the 'output' picture only, a 'lip' microphone which reduces background noise, and headphones on which I hear the producer, the 'Grandstand' control gallery, the cameraman, the engineers, and the effects microphones. This is known, appropriately, as 'dirty talk back'. My 'staff' consists of a lap chart keeper and a stop watch driver because official speeds from race control would be too slow in transit. I also have the support of John Bolster in the pits. This is a source of great comfort, particularly on the rare occasions when I can actually hear what he says.

So up in the commentary box, we shall have our moments. And people, who have not been lucky enough to get to the Grand Prix in the flesh will be able to see the race—from Lands End to John O'Groats, and on Eurovision, from Northern Scandinavia to Southern Italy.

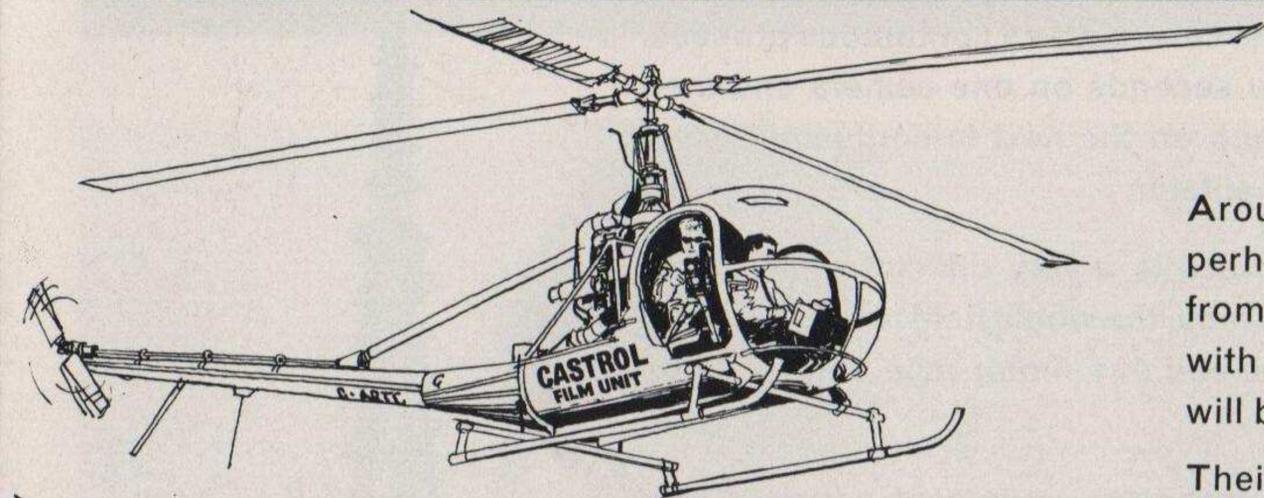
Meantime, at Kempton Park . . .

RAYMOND BAXTER

*Top : John Bolster checks the condition of the plugs
Centre : Inside the control room
Bottom : Outside broadcast camera*



...and CASTROL FILM THE RACE



Around Brands Hatch on Grand Prix day will be dozens, perhaps hundreds, of photographers from the world's press, from film and newsreel companies. More than a few of those with movie cameras and sound recording gear in their hands will be working for Castrol.

Their task will be to make a comprehensive record on film of this day, so that, in the winter months ahead, tens of thousands of enthusiasts in motor clubs throughout the country may relive the colour and excitement, the sound and the fury of the European Grand Prix of 1964.

Filming a major motor race in depth is a most complex operation, planned in advance to the last possible detail. For within the brief two hours or so of the life of the race, every facet, every incident, must be recorded as it happens. There are no second chances, no excuses.

In the months to come, technicians will be at work in cutting rooms and recording studios, shaping and polishing the work of today into a finished 30 minute film.

So spare a thought, if you will, as you enjoy the racing, for the men hard at work behind the cameras. And if you belong to a motor club and would like to see the results of their work, ask the Secretary to reserve a print of the film for showing to you and your fellow members. The release date will be 1st December 1964 and the address to which to apply is:—

**Castrol Film Library (European G.P.)
Castrol House, Marylebone Road, London, N.W.1.**

