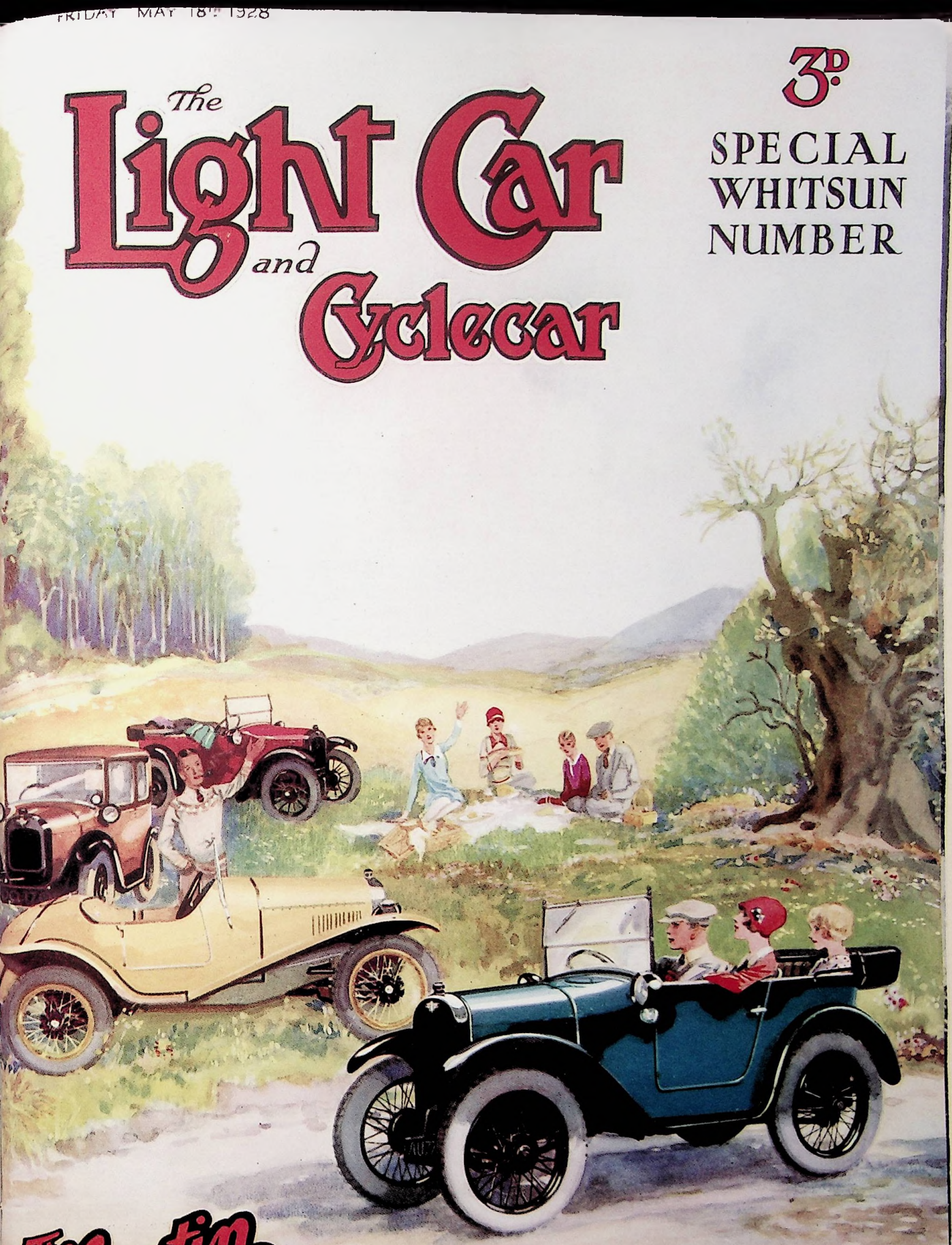
FRIDAY MAY 18TH 1928

The Light Car and Cyclecar

3D.

SPECIAL WHITSUN NUMBER



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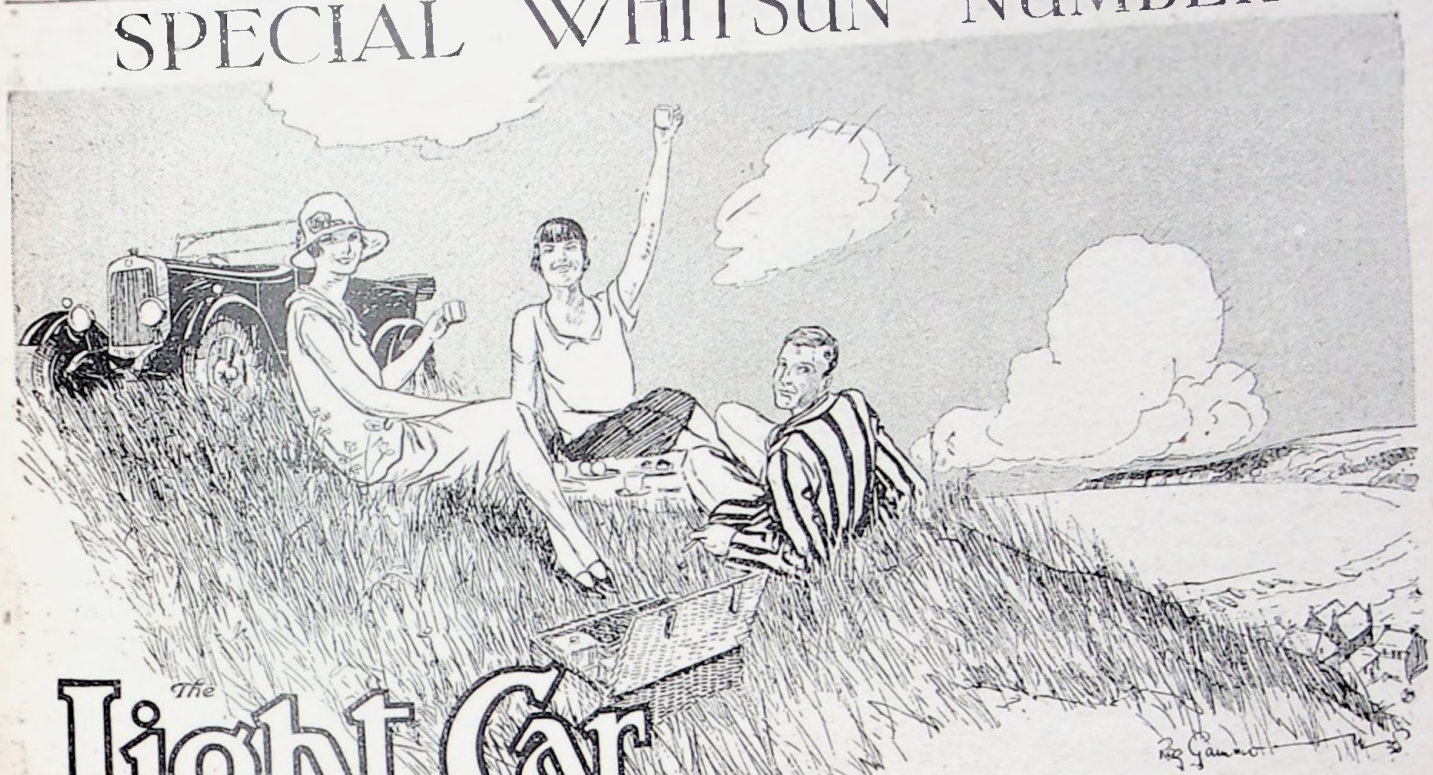


"THIS FREEDOM"

The Light Car and Cyclecar

NOTES, NEWS & GOSSIP of the WEEK

The Coming Holiday.

Just a week in which to make your arrangements; but study the useful advice on touring and so on in this issue before you begin.

Crowded Roads.

Once again we should impress upon our readers the fact that at holiday periods extra caution is necessary when at the wheel of a car. The main roads carry far more than the usual amount of week-end traffic and the ranks of motorists are reinforced by a large number of comparative novices. Remember: More haste, less safety.

This Week.

Our Special Whitsun Number, containing—amongst a wealth of other interesting features—several absorbing articles written by prominent people on current topics. These include "The 'Limit' of the Light Car," by Capt. Malcolm Campbell; "What of 1938?" by Prof. A. M. Low, and a plea by Miss H. M. Lister for the universal recognition of women as expert car drivers. Our centre pages are devoted to a topic which is being discussed by motorists all over the country, namely, how petrol bills can be reduced: The Essex Motor Club's Six-hour Race is described in detail, and we are able to give the first particulars of a new Hampton saloon.

No. 806. VOL. XXXI.

ON OTHER PAGES

LIGHTING-UP TIMES

for Saturday, May 19th, 1928.

London ..	9.48	Edinburgh ..	10.22
Newcastle ..	10.12	Liverpool ..	10.9
Birmingham	10.0	Bristol	9.58

Moon—New, 19th.

Your Paper.

Our special numbers are usually the means of bringing us many new readers—folk who own Austin Sevens, Rovers, Singers, Standards, Humbers, and so on. May we again emphasize the fact that this journal exists for no other purpose than to serve their interests? Ours is the only journal in the world catering solely for light car owners, and do not forget we have 15 years' experience behind us. A final word: Why not have the paper delivered each week.

Sand Racing.

A 100-mile sand race for cars will be run on the Birkdale beach on June 23rd, the organizers being the Southport Motor Club.

Boarding Houses.

A list of inspected boarding houses, farmhouses, and so on, is being issued by the A.A., and copies may be obtained by members. The list should be invaluable to holiday makers.

London-Edinburgh Entries.

Entries for the M.C.C. London-Edinburgh run at Whitsun closed on Friday last. The entry list shows a total of 146 cars, 14 three-wheeled cyclecars, 44 sidecars and 148 solo motorcycles.

Next Week.

What is your safe limit? A simple question, but one which has a very important bearing on your skill and safety as a driver. This is an intriguing little problem when discussed in detail, and next week we shall include an informative article dealing with the pros and cons. Readers who follow the M.C.C. long-distance trials—and even the most lukewarm supporters of competition work generally manage to raise a good deal of enthusiasm in connection with these events—will welcome our programme of the London-Edinburgh run.

B5

Maidstone "Roundabout."

Maidstone is trying out the gyratory traffic system at the Queen's statue.

For Women Drivers.

A reliability trial confined to women drivers is being held by the Wood Green and D. M.C. to-morrow (Saturday). Full details will be found under "Club Items."

Lighting Law.

The Ministry of Transport has issued a memorandum setting out briefly the main provisions of the Road Transport Lighting Act, 1927, and the Road Vehicles Lighting Regulations, 1928. The R.A.C. will be pleased to supply a copy of this memorandum, free of charge, on application to the Secretary, R.A.C., Pall Mall, London, S.W.1.

Fire at R.A.C. Office.

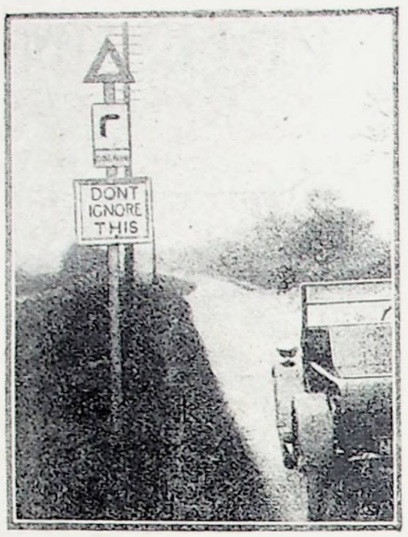
Owing to an outbreak of fire at the R.A.C. office, at 42, Church Street, Liverpool, it has been found necessary to close part of the premises while rebuilding is being carried out. This will not in any way interfere with the ordinary work of the office, but the writing-room hitherto placed at the disposal of associate-members will be closed.

Padstow Improvements.

The road from Winnards Perch to Padstow, Cornwall, is being considerably altered, and will be unfit for motor traffic during practically the whole of the summer. Tourists visiting Padstow from Columb should pass Winnards Perch and then turn left at the White Cross to St. Issey and Padstow on the Wadebridge Road.

Children's Outing.

An outing for the poor children of Coventry is being held on June 9th, and motorists in the district are asked to lend their cars for the purpose of taking the children for a drive of about 10 miles. Cars should meet at the Pool Meadow at 1.30 p.m. Tea will be provided in Allesley Park, followed by amusements and a presentation of toys. The hon. secretary of the committee responsible for the outing is Mr. C. F. Wagstaff, 8 Bolingroke Road, Coventry.



This combination of warnings on the Leicester-Ashby-de-la-Zouch road, near Coalville, is not likely to be ignored!

Hertford Speed Trap.

Owing to complaints of inconsiderate driving through King's Langley, the Chief Constable of Hertford states that he is reluctantly compelled to institute a speed trap in the village. The Chief Constable has always given warning of his intention to operate a speed trap within any district under his jurisdiction. Motorists are, therefore, urged to exercise due caution when passing through King's Langley.

U.S. Concession.

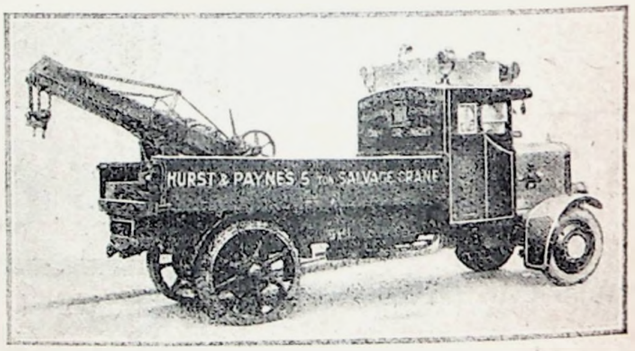
British tourists may now import cars into the United States for a period of ninety days, or less, without being called upon to deposit cash to cover the duty. This concession is the result of an application made by the Automobile Association to the American A.A.

A Lighting Problem.

The Minister of Transport may decide to make an exemption in the Road Transport Lighting Act in order to satisfy the L.C.C. The rear projections of a number of fire escapes owned by the L.C.C. exceed the limits allowed under the Act, and if the Minister does not exempt the vehicles, additional rear lights will have to be fitted to the projecting parts.

R.A.C. Stewards.

The following have been elected as stewards of the R.A.C. for the ensuing year:—The Earl of Derby, Lord Cozens-Hardy, Lord Wear of Eastwood, the Hon. Sir Arthur Stanley, Brig.-Gen. Sir H. Capel Holden, Rev. E. P. Greenhill, Mr H. B. Shackleton and Mr. Percy Short. The stewards of the R.A.C. are the final court of appeal on all matters relating to the sporting side of events under R.A.C. regulation in this country.



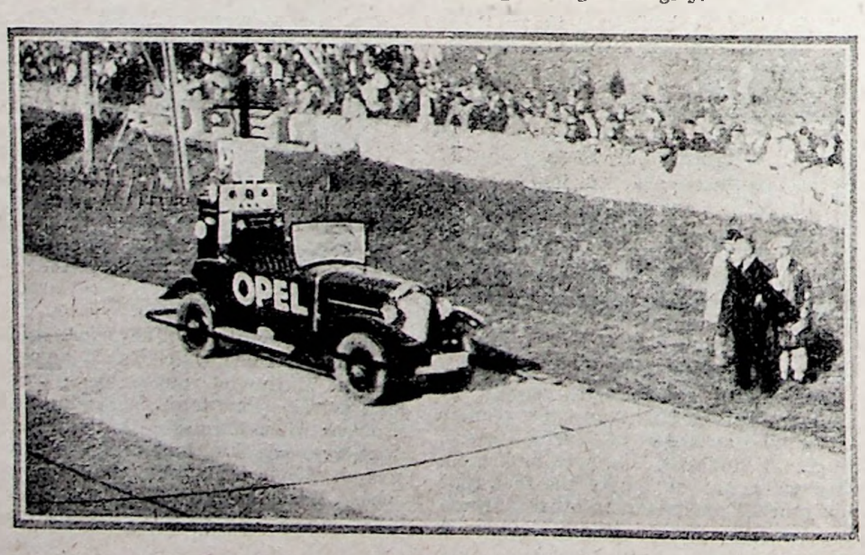
A salvage crane equipment is the latest addition to the "get-you-home" fleet of Messrs. Hurst and Payne's Garage, Coventry Road, Hay Mills, Birmingham.

Wasted Time.

The solicitor at the Bromley police court recently protested against the time wasted by constables being sworn in before every summons.

Trips to the Isle of Wight.

On Monday last the s.s. "Her Majesty" was added to the service of passenger steamers travelling between Southampton and Cowes, Isle of Wight. There are three sailings each way on weekdays and two each way on Sundays by s.s. "Her Majesty," whilst other steamers make four crossings on weekdays and three on Sundays. Motorcars can be conveyed by these steamers, the charge being 15s. single and £1 7s. 6d. return for a car not exceeding 10 ft. in length. For cars up to 14 ft. in length the charges are £1 2s. and £1 16s. 6d. The passenger fare is 1s. 10d. single and 2s. 10d. return. Further details can be obtained from Mr. L. T. Wilkins, Western Esplanade, Southampton. Incidentally, we have received a copy of a very informative and well-illustrated guide to the south coast. The price without postage is 9d., and interested readers may obtain the guide from F. G. Warne, Ltd., 30, Baldwin St., Bristol.



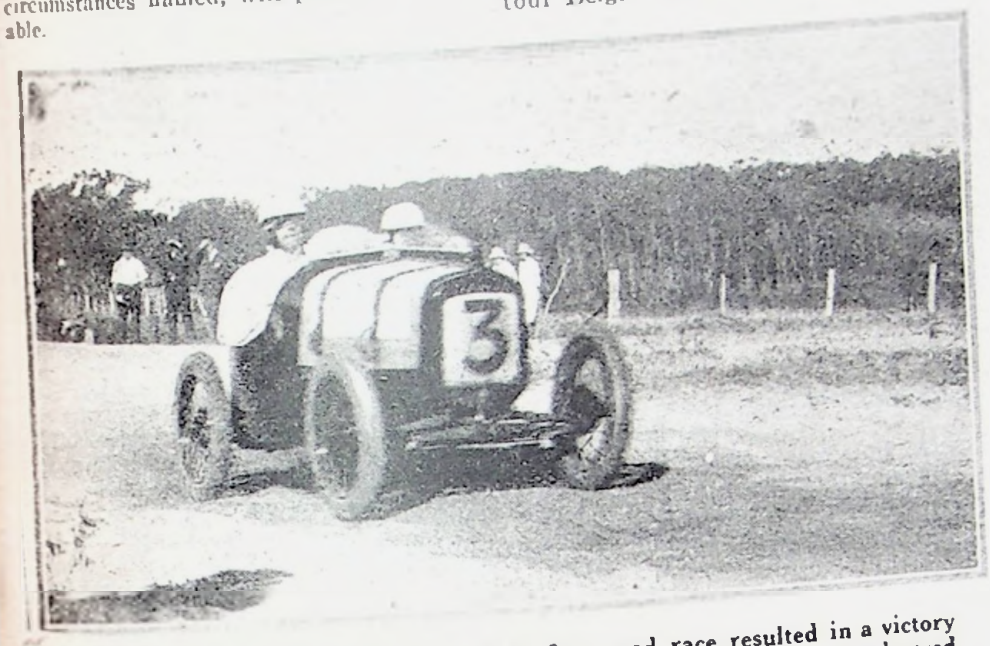
CONTROLLED BY RADIO. — Radio control apparatus has been added to an Opel car, which is here seen running driverless on a German race-track.

Useful Pilots.

Strangers to the Metropolis who contemplate making a journey which will necessitate crossing London are reminded that the Automobile Association provides pilots, whose assistance, in the circumstances named, will prove invaluable.

Garages Abroad.

That prices have been agreed by many garages in Belgium for garaging cars and motorcycles is reported by the touring Club of Belgium to the A.A. Full particulars may be obtained from the Association by motorists intending to tour Belgium and the Ardennes district.



ANOTHER AUSTIN SUCCESS. — Australia's first road race resulted in a victory for Capt. Arthur Waite, driving a supercharged Austin Seven, which thus proved faster than cars over the 1,500 c.c. limit.

Tours in Switzerland.

The Canton Grisons in Switzerland will this summer, for the first time for many years, be open to all classes of motor traffic. The A.A. is arranging a number of tours in this very beautiful part of Switzerland.

Singer Service.

The London Singer Service Depot is now at Lancelot Road, Wembley—a few minutes' walk from Wembley station on the Watford extension of the Bakerloo line. Much better facilities are afforded than at the old depot at Brewery Road, London, N.7.

Changes in Rover Directorate.

Owing to private reasons, Col. W. F. Wyley has resigned the chairmanship of the Rover Co., Ltd., and in accepting his resignation with regret the directors of the company place on record their sincere appreciation of his devoted services to the company during the past 21 years. Mr. W. B. Sudbury and Mr. Herman Jennings have been co-opted to seats on the board, the former gentleman having been elected chairman in the place of Col. Wyley.

Laughter in Court.

Judge Linehan, Ireland, holds that horses should be illuminated at night. It all arose out of a case where a motorist claimed damages for negligence in the management of a horse.

The Judge: "I suppose there is no obligation to put a light on a horse?"

For Plaintiff: "Not yet."

The Judge: "There ought to be."

For Plaintiff: "Head lights and tail lights?"

Finally, his honour said that in view of the speed motorcars were developing nowadays it seemed to him that a horse should be illuminated in some way.

Lambeth Bridge.

The L.C.C. proposes to spend about £47,000 on improvement schemes at the Westminster approach to Lambeth Bridge, London.

Tyre Sizes.

A reduction in the number of car tyre sizes fom 24 to 16 has been approved by the Chamber of Commerce at Washington.

For the T.T.

A.A. road patrols will be provided at Liverpool and Douglas to assist in the conveyance of motorcycles and so on in connection with the motorcycle T.T. races to be held on June 4th, 6th and 8th.

Held by Railings.

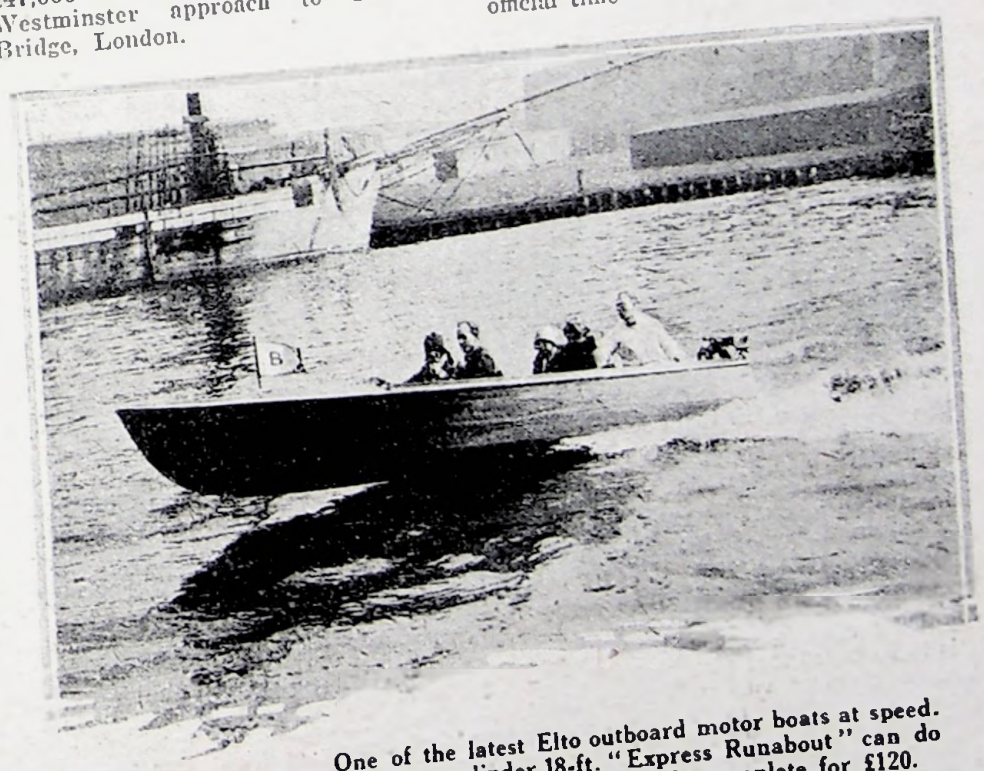
In trying to avoid some children in the Salt Market, Glasgow, a car crashed through the Clyde Embankment. Fortunately, it was held by the railings and hung half over the Embankment wall until help arrived.

A Good Road.

The main road from London to Bournemouth, via Basingstoke, is under repair. The work is not quite complete, but there is a good surface over practically the whole length of this famous road. It is certainly a route to be recommended.

Speed Boat Prizes.

Light car owners who have taken up motor boating will be interested to know that the Elto Motor Sales Co., of 24, Harrison Street, London, W.C.1, have offered several big cash prizes for the best official times made in outboard motor boat competitions with the super Elto four-cylinder Quad engines (class D) and super Elto twin-cylinder Speedster (class B) engines. A prize of 1,000 dollars, approximately £200, will be awarded to the holder of the best official time with the super Elto Quad.



SPEED WITH CHEAPNESS! — One of the latest Elto outboard motor boats at speed. This four-cylinder 18-ft. "Express Runabout" can do 24 m.p.h., and can be bought complete for £120.

Entering Sweden.

The A.A. informs us that, despite a recent statement that private motorists can enter Sweden with no more formalities than the signing of a declaration, the usual customs formalities have still to be complied with. Cars can enter the country under cover of a triptyque, or carnet do passage.

and to the holder of the second best official time with this model will be awarded a prize of 500 dollars, approximately £100. Awards of £100 and £50 will be made to holders of best and second-best official times respectively made with the super-Elto Speedster model. The period of the contest began on May 1st and will end on October 1st.

B7

Manchester's Used Motor Exhibition.

THE first provincial motor exhibition held under the auspices of the Motor Agents' Association will be opened in the City Exhibition Hall, Manchester, to-day. The public, no doubt, is keenly interested in exhibitions of this kind, but, at the outset, we think it advisable to utter a word of warning as the result of impressions which were gained during the run of a similar exhibition held at the Agricultural Hall, in London, recently.

The public should bear in mind that at these used motor exhibitions they must not expect to pick up really good cars for a mere song. Good cars there are, and for this reason, coupled with the fact that every vehicle offered for sale is sold under a guarantee approved by the M.A.A. and is accompanied by a guarantee specification, it should be quite obvious that the cars exhibited are well worth the money that will be asked for them.

Trial runs can, of course, be arranged at any time during the exhibition, and vehicles will be sold for cash or on deferred terms, as desired. The price of admission is 1s., free of tax, and the exhibition will be open from 11 a.m. until 9 p.m. from to-day, May 18th, to the 26th inclusive.

Quick Work at the Pits.

Have you ever changed a wheel against a stop-watch? The operation would probably take you not less than two minutes if you hurried—and then some; yet for many years wheel changing during classic road races has been only a matter of seconds. Just to show what can be done in this way, Campari, who won this year's Targa Florio in a 1,500 c.c. six-cylinder Alfa-Romeo, changed two wheels in 43 secs. during one pit stop, and on a subsequent stop changed all four wheels and filled up with fuel in 51 secs. Possibly, of course, the same speedy work could be carried out on a touring car if four men were standing at attention, each with a wheel and hammer, two men with jacks and two further mechanics with fuel and hose pipe ready to thrust into the tank. For all that, it was pretty quick work, and undoubtedly emphasizes the inconvenience of wheel changing when touring, for most owner-drivers take nearer 10 minutes than two to tackle one wheel.

Skegness Wants More Support.

Mr. R. J. G. Dutton, the secretary of the Skegness Motor Races, believes in calling a spade a spade. In sending out a preliminary announcement of the speed trials which are down to be run off on the Skegness foreshore on Monday and Tuesday, June 18th and 19th, he makes no endeavour to hide the fact that, since the introduction of the S.M.M. and T. ban, the promoters have lost money steadily, and, to quote Mr. Dutton's own words, "We shall about come to the end of our resources if we lose any more."

Now, quite apart from the fact that Skegness is "so bracing," this two-day sporting event offers really good opportunities for enjoyment and profit, and it is to be hoped that plenty of folk who possess sporting cars will send their names right away to Mr. Dutton, so that he can get things on the move.

This year the programme will include classes for both sports and racing cars from 1,100 c.c. upwards, whilst a new event will be a five-mile race, introduced so as to enable the thousands of spectators who gather along the well-laid-out and well-marshalled course an opportunity of seeing some spectacular cornering. Here is the address to which applications should be made for entry forms: Mr. R. J. G. Dutton, secretary, Skegness Motor Races, Council Offices, Skegness.

B8

New Italian £100 Car.

A new car, built primarily with economy in mind, promises to take visitors to the Milan Motor Exhibition by storm. It is known as the Eia, but up to the present details concerning it are rather scanty. We gather, however, that it will be constructed in Milan by a new and powerful trust, and will be sold at the equivalent of £100 in three-seater form with full accessories, tyres and so on. The engine will probably be a two-cylinder of under 1,100 c.c., a three-speed gearbox will probably be fitted; the car will have four-wheel brakes, left-hand controls, a speed of about 70 k.p.h., and, last but not least, a pleasing appearance, very similar, it is said, to that of the 7 h.p. Fiat.

Prospects of Dirt Tracks.

In some quarters the view is held that car dirt-track racing cannot be so successful as when motorcycles are used, because the thrill of seeing a machine "lay over and broadside" will be absent. Folk who advance this argument are probably not aware of the fact that in America cars have been employed with conspicuous success on dirt. Expert drivers over there rely on light but very powerful vehicles, and so skilled do they become that they can sweep round a bend in one magnificent "broadside."

What they have to be prepared for, however, is the possibility of the back wheels suddenly getting a grip and propelling the car with vastly increased acceleration—through the inner fence of the track! It really sounds as though dirt-track racing for cars is going to be thrilling, and Greenford will be invaded by a mighty horde if the J.C.C. event in June materializes. Incidentally, we are able to state on good authority that some of the most skilled drivers present in this country have promised to take part.

Query: When is Lighting-up Time Not Lighting-up Time?

The Minister of Transport has explained that the right time for lighting up a motor vehicle is one hour after sunset, and for illuminating the number plate half an hour after sunset. This statement was made in the House in answer to Lieut.-Colonel Howard-Bury, who pointed out that there had been something of a legislative muddle with regard to this matter. The Minister explained that, under the Road Vehicles Regulations of 1921, the time for the illumination of the rear number plate is half an hour after sunset, whereas "lighting-up time" under the Act of 1896 was one hour after sunset. The Road Transport Lighting Act which has recently come into operation establishes a uniform time of half an hour after sunset for these two operations during the winter months, while leaving the position during the summer months unaltered. He undertook that, when an opportunity arose to amend the new Act, he would consider the question of uniformity in this respect during the summer months as well.

The lack of harmony between law and practice with regard to the speed of motor vehicles was raised by several members in connection with chars-a-bancs. They drew the attention of the Home Secretary to the fact that these vehicles travel at a greater rate than 12 miles an hour, as the advertisements of many of the services showed.

Another matter relating to large passenger omnibuses, but also affecting motor traffic of all kinds, was brought to the notice of the Minister of Labour by Lieut.-Commander Kenworthy. This is the length of time during which the drivers of such vehicles making long journeys into the country are on duty. It is alleged that in some cases their hours are so long that the drivers may be in such a physical condition that they are a danger to everybody on the road.

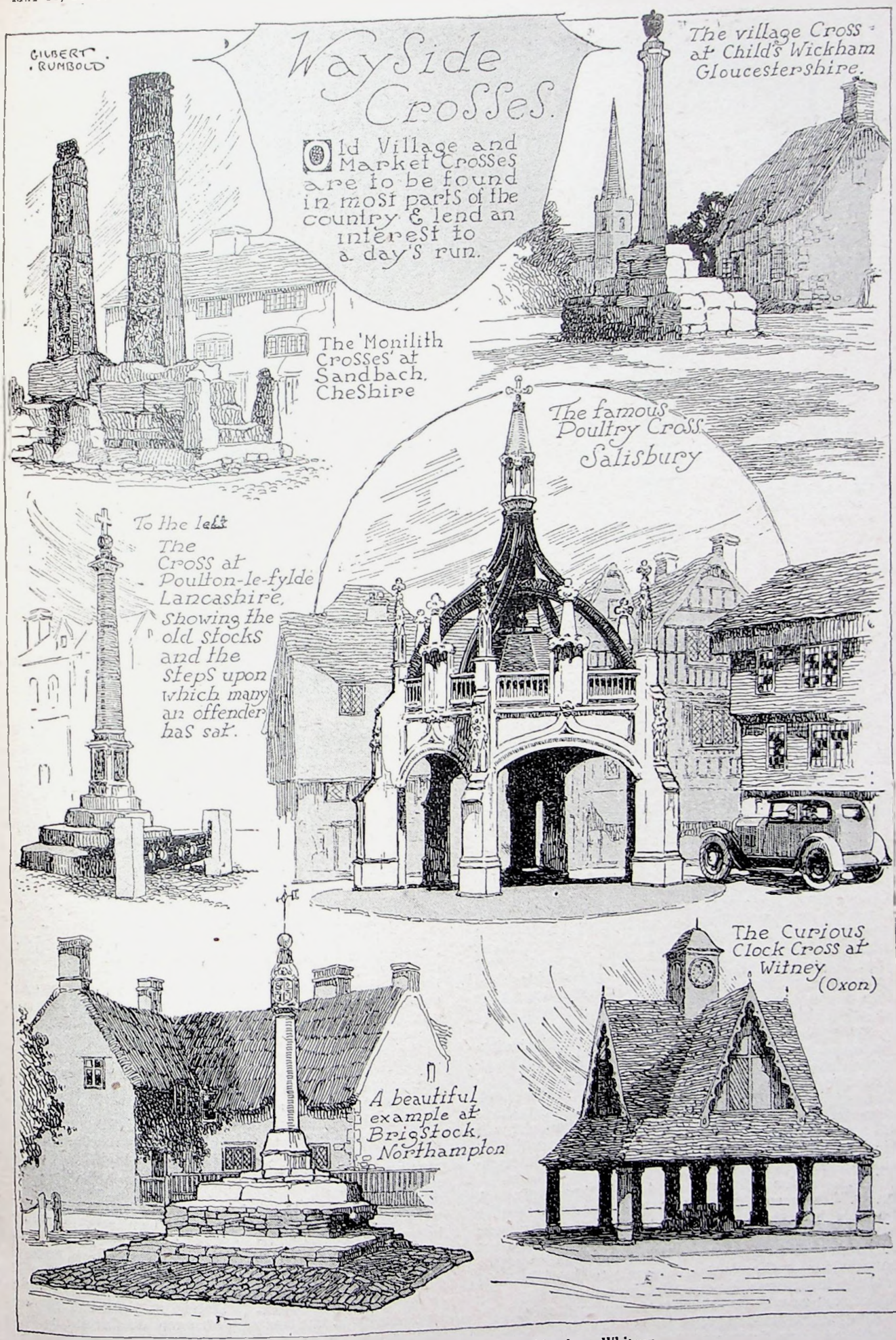
Light Cars Critically Surveyed.

VERY interesting indeed was the paper read before the Junior Institution of Engineers by Mr. C. E. Squire, M.I.Mech.E., M.I.A.E., entitled "A Critical Survey of Light Car Design." Space forbids more than an extract from the paper, entitled "The Future."

"The valves are the weakest part of an engine, but it seems hardly likely that the sleeve valve will come in for light cars; possibly the rotary valve may yet make good. Steam cooling offers considerable advantage, but has not made much headway. The rotating armature type of magneto is likely to give place to the rotating field or inductor type, and some simplification of the electrical auxiliaries is also likely.

"America is already leading the way in the matter of oil filters and air cleaners, but we already have in this country one of the former that is better than any of the American although it is little known. The free wheel is making good, but cost is rather against it coming into popular favour. With the tendency to a lower centre of gravity the hypoid bevel gear for the back axle will probably be more used. In addition to better wearing qualities it enables the body to come a little lower than either the ordinary bevel or the worm.

"Whether it will ever be possible to convert the energy of fuel directly into electricity no one can tell, but if this should come then it is safe to say that the motorcar will be one of the very first commercial fields for it."

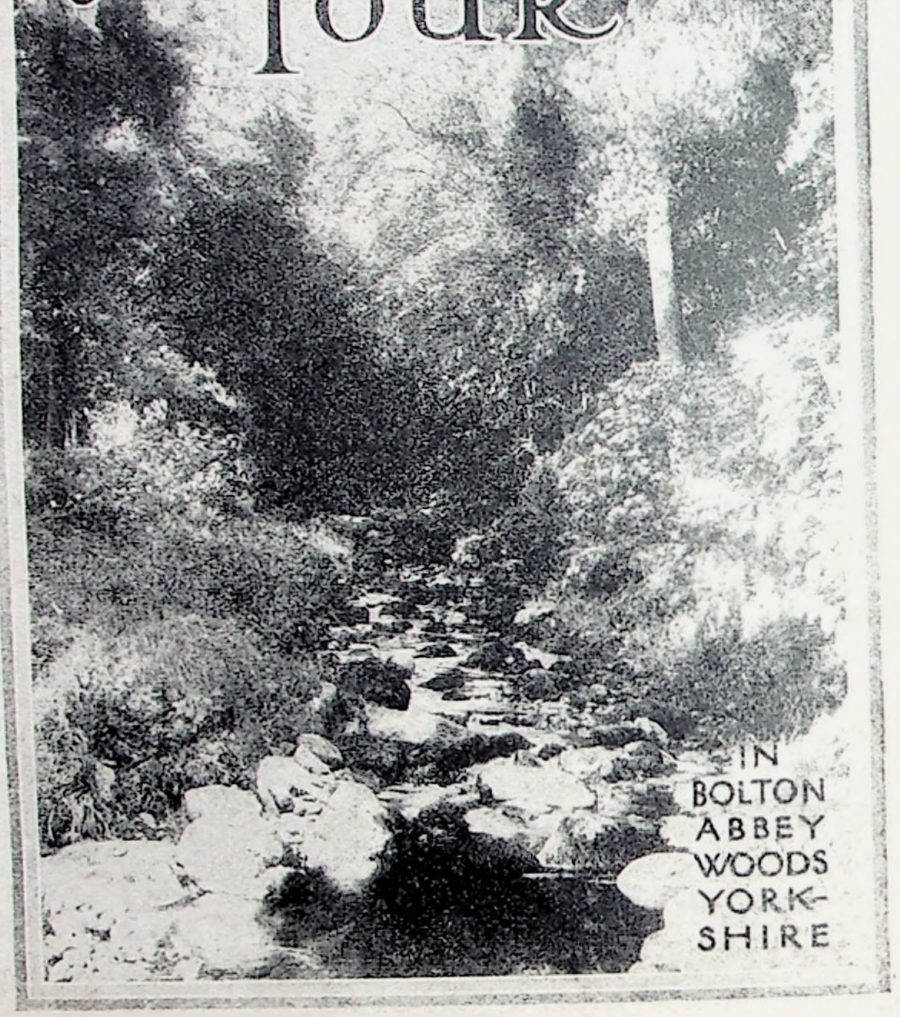


Attractive subjects for camera or sketchbook at Whitsun.

PLANNING a WHITSUN TOUR

HOW TO SPEND THE HOLIDAY TO THE BEST ADVANTAGE.

USEFUL HINTS ON THE CHOICE OF A SUITABLE ROUTE.



WITH the Whitsun holiday close upon us, most readers will be thinking of that long-anticipated tour. There are more newcomers to the ranks of motor tourists than ever this year, and not a few of them imagine that the preparation of a detailed route is needless; they have a vague notion that it is possible to set out with a thinly sketched plan of reaching some place by the easiest route, or, it may be, of going "whither the spirit leads." Indeed, it is surprising what a large number of novices fail to grasp the fact that there is more—much more—in motoring than covering so many miles in a day. In consequence they lose a great part of the pleasure they might have enjoyed.

Again, the haphazard, happy-go-lucky method often lets one down badly. Apart from the possible inconveniences and petty annoyances that might have been avoided had the tour been well planned beforehand, the tourist may learn afterwards what he might have seen and did not, and what delights he passed by in blissful ignorance of their existence; then he will wish that he had made the effort to acquire some information prior to setting out.

The question of distance, too, is important. A motorist who endeavours to crowd as many miles as possible into the day's run and carries on for hour after hour with his eyes glued on the road from start to finish and with no thought for the beauties of the countryside or the places of interest to the right hand and the left misses the essential joys of motoring. He might just as well be taking part in a road race!

A carefully planned tour, yet one that is moderately elastic to allow for unanticipated detours, will, in the end, prove to yield much more pleasure and lasting satisfaction than a "go-as-you-please" tour.

The newcomer to motoring may be reminded that there are several ways of spending a motoring holiday. Point-to-point touring is popular, and is certainly good for those who desire to see as much as possible during a short holiday, but where one wishes to explore a particular region surrounding some recognized centre it is advisable to establish headquarters at that centre, and to plan daily runs that will enable one to see all the interesting spots in the district, returning each evening to the same hotel. A drawback in touring from a centre is that very frequently one is obliged to cover certain stretches of road day after day.

Motorists who have a fairly long holiday before them might well combine the point-to-point system with touring from a centre—that is, having selected the route, motor out to a certain venue and spend two or three nights there whilst exploring the immediate neighbourhood and the interesting features of the locality; then move on to the next selected centre, making another brief stay there—and so on until the tour is ended.

An important thing in connection with all three ways of touring is, of course, to find suitable hotels or lodgings, at convenient distances apart in the districts selected. Those who are fortunate enough to have a friend who has taken the same route previously should not hesitate to seek his aid: he will probably be able to offer helpful advice. Hotels and inns differ so enormously in the matter of accommodation, menu, service, and so on that one is almost bound to meet with dissatisfaction occasionally. Except for this pos-

sibility—not a very alarming one—touring holds no terrors and, if properly arranged, the holiday should be nothing less than a joy.

Newcomers would do well to investigate the benefits of joining the Automobile Association or the Royal Automobile Club, one of the distinct advantages being their handbooks containing, among other useful information, lists of hotels which are a very great help in this matter of accommodation. To avoid real trouble, do not trust to finding rooms in a popular resort "on spec."—the risk of having to spend a night in the car is too great.

The Scottish Border sign at Lamberton Toll.

A few days before setting out it is a good plan to make sure of hotel accommodation en route, so saving all the worry of hunting around for rooms, perhaps in the rain, after a long day on the road. On the other hand, this course ties one down to a fixed route and a definite mileage each day. It is often possible, of course, to telephone ahead during the stop for tea.

The preparation of a tour provides much pleasure, whether it is to be of two days' or two weeks' duration. In fact, one gets the run, as it were, in anticipation as well as, afterwards, in actual realization. The first thing is to secure a good road book and the requisite number of maps—or one good map, if it covers all the district to be explored. As many guidebooks of the region as are available should be consulted and a list of the places which seem chiefly worth visiting should be made and arranged in order. The list can be modified afterwards if needs be. Guidebooks bought on the spot, by the way, usually help one best, for local authorities know far more of the details of their districts than other people.

Also, if there should happen to be a volume in the "Highways and Byways" series (Macmillan) dealing with the quarter to be visited, by all means obtain it and take it along, for it will add considerably to the interest of the tour, especially if read through leisurely beforehand.

There is everything to be said for—doubtless most experienced tourists will agree with this—a definite system upon which to base one's preparations. Naturally, the system must vary with the character of the district to be traversed, the composition of the party and the time available. It may be to explore a county, one of the Roman thoroughfares, to "do" some picturesque district, make a round of old castles, or to undertake a pilgrimage to some locality famous in history or in literature—Thomas Hardy's beloved Wessex, the Scott country, the historic Borderland, the Yorkshire dales, the Lake District, the Cotswold byways, Devon and Cornwall, or the fenlands of East Anglia.

Routes of this type, if arranged on a definite system with the aid of guidebooks or the acquired experience of a friend who has been there before, will provide the maximum of motoring pleasure in the limited time of the average Whitsun or summer holiday tour. Moreover, if a camera is taken and used to good advantage the photographs of interesting spots which will be obtained during the trip will make an attractive set and will yield many pleasurable memories when unearthed during the dark days of next winter. A.S.

IN THE ELAN VALLEY. — Traffic hold-ups are not as a rule popular, but an enforced stop in such a charming spot as this beautiful South Wales valley has its compensations.

The "Limit" of the Light Car

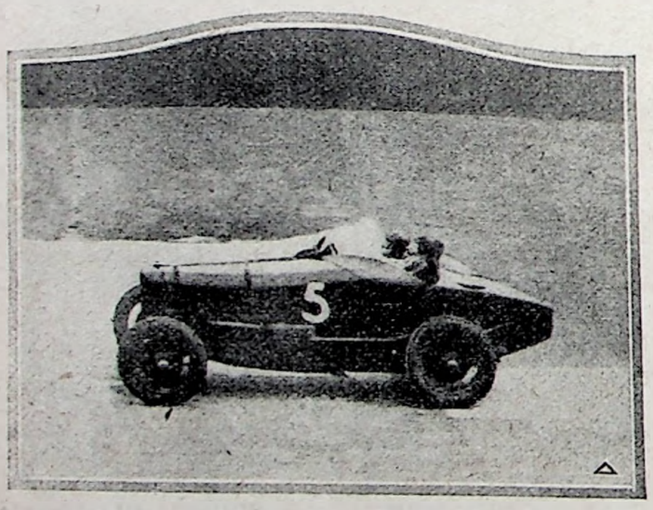
By Capt. Malcolm Campbell.

Capt. Malcolm Campbell ranks as one of the foremost racing drivers of the day, and his views on small car matters will be doubly interesting to readers of this journal owing to the extensive experience which he has had with light cars as well as large cars. The wisdom of retaining a sharp dividing line between light cars and larger vehicles is endorsed by him.

HISTORY was made 15 years ago when a few thoughtful people got together and decided that there were infinite possibilities in the idea of really economical motoring, and they set their seal on the pioneer work they were undertaking when they fixed the engine capacity limit of a light car at 1,500 c.c.

It must be understood that, previous to this, motoring had developed along general lines, and, although we had small cars as well as large, motoring was the recreation of the rich and economy did not matter. Twenty years ago, for example, the idea of a man who earned £500 a year being rich enough to own a car was not thought of, for to motor in those days meant, in the majority of cases, that one had to buy not only a car but a chauffeur as well; in short, motoring for the masses as we know it to-day was a prophecy which none dare make.

Had the light car movement never been started motoring would have progressed, I think, along the general lines I have indicated and a £500-a-year man might still be unable to afford a car to-day. Modern motorists will be able to gauge how much they owe

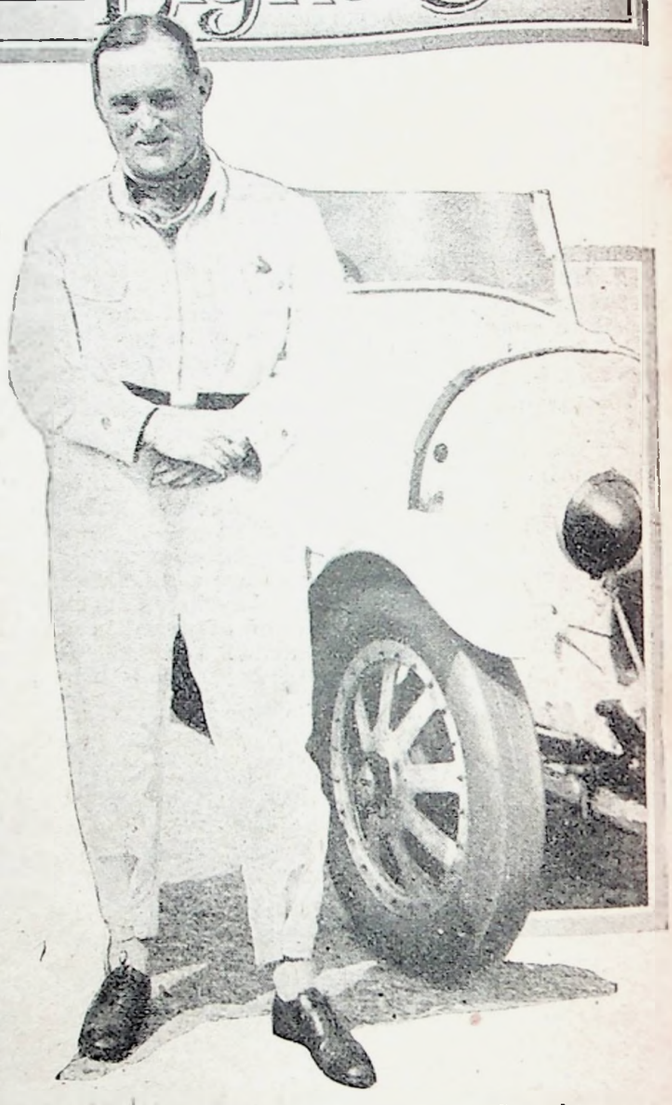


One of the three Talbot-Darracqs—the car which Lee Guinness drove to victory in a 200-Mile Race—is still going strong. Capt. Campbell speaks in high terms of these cars.

in this respect, therefore, to the pioneers of 1,500 c.c. machines.

At the outset 1½ litres was regarded as rather an arbitrary limit; that its adoption was a very wise decision has been proved during the past decade. The resourcefulness of light car designers has been taxed, but they have proved conclusively that they can build machines which are not at all of a freakish nature, but are, in fact, replicas of all that is best in automobile practice.

The whole point is that had no engine limit been



A "snap" of the writer taken last Saturday.

fixed, scientists would not have striven so hard to obtain the maximum efficiency from an engine of a given size: and here in a nutshell is the explanation of the success which light cars have attained. Fifteen years ago there were people who saw little significance in the limit of 1,500 c.c. To-day no such criticism can be put forward.

Looking back over the years that have gone by since *The Light Car and Cyclecar* was inaugurated, I am amazed by the progress which has been made. Take haphazard a few of the cars which are now firmly established in the world of motoring. They nearly all bear names which are as old as the industry, and many of them are associated with larger cars renowned the world over. Yet in their early forms they were crude, and one would create amusement if one were to travel about in this year of grace 1928 in a machine which, 15 years ago, was considered to be the last word in light car development.

We owe a lot to this limit business, and when I say "we" I mean not only ordinary motorists, but people whose living depends on the motor business and people who have fostered motoring as a sport right from the very beginning.

Lots of folk associate my name only with speed work; in fact, I am told on good authority that the latest description of a man who makes a habit of

fast touring is that he has the knack of "Campbelling" along, but I do hope that my present readers will remember that, apart from racing, I take a very lively interest in touring cars and that the development of the light car in particular is an interest which I have very largely at heart.

Talking of speed, however, reminds me that there is no finer test of design and progress, and I am convinced that I am working along the right lines when, in order to gauge the possibilities of any particular make, I put it through its paces on the track.

A car is rather like a steel joist—you can make it safe only by finding out its breaking strain and then allowing what engineers and architects call a factor of safety. In racing, practically every part of a car is tested almost, and sometimes right up, to breaking point, and although I am putting forward an argument which is becoming familiar, I do so with due deliberation when I say that racing is of inestimable benefit to the breed. All the way through light car history it has played its part successfully: witness the fact that the majority of the better-known light cars of to-day have progressed along lines which were dictated to a great extent by their performances on the track, at hill-climbs and so on.

Frank Lockhart, who met his death when endeavouring to lower the world's speed record in a comparatively light car. A warm friendship sprang up between Capt. Campbell and this "fine American boy."

Some of my most pleasant recollections centre in experiences which I have had in speed events with light cars, and I can assure my readers that there is a peculiar fascination in attempting to get the most out of a car which, from the point of view of pure speed, is handicapped by a limited engine capacity.

I began to take an interest in light cars as prospective racing vehicles when *The Light Car and Cyclecar* offered its Challenge Cup for the Brooklands Hour Record, but it was not until the advent of the now deservedly popular 200-Mile Race that I fell a real victim to the fascination of speed at the wheels of small cars, and I must confess that on my first introduction to the Talbot-Darracqs I shared the astonishment which was almost universal at the very high speeds of which these cars were capable.

I also had the opportunity of sampling what Italy could do in the shape of a 1½-litre supercharged car, but light car engines were not nearly so perfect as they are now, and neither the engine of my Fiat nor of that driven by Salamano were equal to the strain and both "blew up." The fact that nowadays unsupercharged cars stand little chance in a race like the "200" and that supercharged buses run with surprising regularity really does show what strides have been made in the course of only a few years.

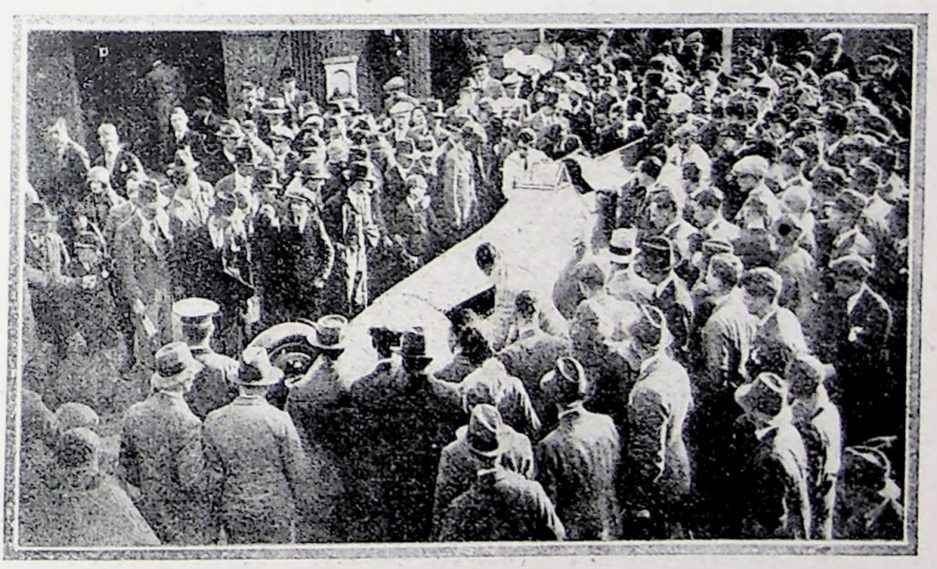
Patriotic as I am to the backbone, I must admit that men like M. Ettore Bugatti and M. Louis Delage have taught us a lot in this direction. The Bugatti was, and still is, one of the finest 1½-litre racing cars extant, but, by striking out on entirely new lines, M. Louis Delage was able to go one better than the Bugatti, and the car which I now own—one of the original three which figured in the Grand Prix races of 1926 and 1927—is, I believe, one of the finest light cars in the world.

Credit for the highest speed ever attained in a light car goes to that fine American boy, Frank Lockhart, whose death came as such a shock to us all. He actually succeeded in attaining over 168 m.p.h. in a 1,500 c.c. Miller Special, but if it came to a trial of endurance I believe that the Delage would prove to be better than the Miller.

A short speed burst is one thing, but for an engine to stand up to a continuous gruelling under high speed conditions is altogether different.

People sometimes ask me what I think is the flat-out limit at which a 1,500 c.c. engine can propel a car. Rather a tall question, you will agree, for every year sees some important development, by means of which increased m.p.h. are available. There comes a time, however, when factors other than engine power enter into the business—witness Lockhart's dreadful accident—and for the present, at any rate, I doubt very much whether his fine effort in the Miller will be beaten.

"I realize quite clearly that at present some form of super car is the only vehicle capable of tackling the world's high-speed record: that is why I pin my faith to cars like 'Blue Bird,' says Capt. Campbell. The photo shows the famous car being wheeled out preparatory to making its first public run in this country at Brooklands on April 28th.



We have a lot to learn yet, however, concerning wind resistance and so on, and if problems which now beset the designers of very high-speed light cars can be solved, I see no reason why the 200 m.p.h. mark should not be reached within the next few years by a car having an engine of only 1,500 c.c.

I realize quite clearly that at present some form of super car is the only vehicle capable of tackling the world's high-speed record; that is why I pin my faith to cars like "Blue Bird," the weight of which is reckoned in tons and not cwts. All the same, I should like to be the first man to reach the 200 m.p.h. mark in a light car.

WHAT OF 1938?

By Prof. A. M. LOW, A.C.G.I., M.I.A.E., F.R.G.S., F.C.S.

Prof. Low is one of the most able of scientists whose investigations are concerned principally with motor-car development; moreover, he has been a staunch champion of the light car since its inception. His views, therefore, will be read with more than ordinary interest.

I SUPPOSE the outstanding fact of science to-day is that new knowledge has taught the world that definitions are almost impossible. For many years it has been common to trace the curve of progress by an examination of the tendencies of the past, a method which provided science with such information as the liquefaction temperature of hydrogen long before the means existed to secure this effect. A similar method should not be considered out of place in connection with automobile engineering, for I suggest that the public are no longer ignorant of matters technical and that their wishes must be expressed in terms of metals, at a definite price.

For approximately 30 years the motorcar has been steadily improving in several directions. As the direct result of such development we can now travel in gradually increasing comfort at a speed which would have appeared phenomenal a few years ago.

It cannot be suggested that up to the present—apart from the sphere of the light car—there has been an equal demand for economy, but the growing demand for cheap fuel, synthetic rubber and lightness of material will bring this factor to the fore. Let us also remember that main roads with a perfect surface, flood lit by night, must be provided for an age in which every man, woman and child will possess a car to overcome their physical distaste for labour, and then proceed to examine the probable mark of these tendencies upon the future.

Prof. Low—a recent portrait.

Fatal Speed!

Speed will be all-important. Eighty years ago it was predicted that 60 m.p.h. would prove fatal to the heart and it is less than a century since the suggestion of high fences to prevent railways striking terror into the hearts of those who work in the fields was seriously made to a Parliamentary committee. The same conditions apply to-day. Our modern speeds are not high, relatively, to those attained in the past. Drivers will be dissatisfied with an average of 40 m.p.h. and will regard "80" as a reasonable cruising speed upon roads legalized for the purpose.

There will certainly be no childish regulations, made to be broken by everyone in full knowledge of their "crime." It will be essential for the car of the future to be under perfect control and I doubt if we shall be content to use even an infinitely variable gear which at the cost of smoothness and silence permits a small engine to work at its highest efficiency for long periods. Rather is it probable that the inherent unsuitability of the internal-combustion engine for purposes of traction will be tackled at the root of the problem and that by an increase in the number of cylinders, or even by the beginning of the petrol-steam-turbine era, the working efficiency of the hot fluid may be so altered that an engine itself will become truly flexible.

Drivers who to-day insist upon a capacity of three litres and more, with a light chassis to give the liveliness so essential to success, will dislike the cost of fuel, oil and expensive construction. They are beginning to realize that in order to enable the internal-combustion engine to work in comfort it is often necessary to carry an engine far larger than is wanted for most duties, and to feed it with petrol in "lumps" so that the disadvantages of high compression and pinking may be avoided. The demand for control, comfort and the sense of mastery which has led to servo-operated front-wheel brakes, and which may yet provide us with servo steering and automatic gear-changing, will call for an engine with a volumetric efficiency and a thermal output which can be maintained over a very much wider range of speeds than is, under present conditions, possible.

The Supercharger.

To-day the supercharger is regarded as an asset to racing, but it should be pointed out that at high speeds the use of forced induction avoids the need for high-lift valves, special steels and freak camshafts with their resultant noise. Still more important is the acceleration which it provides on top gear at low crankshaft r.p.m., and it is reasonable to suppose that from this benefit will spring a new class of light car with multi-cylinder engines, a capacity of probably 700 c.c. or less, but with a top-gear performance of 10-80 m.p.h. and a petrol consumption of 40 m.p.g. over the roughest country.

The commercial possibilities of such an engine will lead to better springing, and I shall be surprised if a duplex method is not evolved whereby both high-speed and low-speed shock can be avoided. Far too many cars to-day are comfortable over pot-holes only at 40 m.p.h., at the expense of all suspension benefits on ordinary roads at 20 m.p.h.

The demand for luxury will certainly produce the one-piece closed body, and to cope with the cost of erection in larger quantities it will be surprising if front-wheel drive and unit construction do not materially assist in providing a car which can be built comparatively carelessly, leaving the final power outfit and front axle to be attached by a few bolts. The utility of front-wheel drive has yet to be established for ordinary touring purposes, but it seems probable that in 10 years' time the detailed repair of the main parts of motorcars will be a thing of the past. By that time we shall have service stations which can drop a new engine into place with little more labour than at present attaches to the changing of a magneto.

Many of the troubles suffered by the uninitiated would vanish by such methods. The public resent the need of maintenance, decarbonizing, engine washing and accumulator inspection.

The crowded nature of such roads as are not specifically set aside for long distances will demand a

responsiveness which is hardly attainable by the present engine and gearbox alone. The true meaning of effortless travel towards which we are progressing is experienced in 1928 only by the contrast provided by climbing a long hill on low gear and coasting down the other side in neutral with the engine at rest.

This aspect of cheap luxury motoring in streamline, closed bodies on detachable-unit chassis does not stand alone with regard to progress over so short a time as 10 years. It is relatively costly to build light cars with a large-car performance, and I believe that fuel investigation and new methods of carburation with "above-atmosphere" induction will help to popularize the larger type of car represented at present by the American factory.

Looking still farther ahead, I believe that in 1938 we shall find ourselves provided with cars of two classes. There will be the microscopically engined, supercharged, six or eight-cylinder, streamlined run-about, and the 20 h.p. luxury vehicle replete with wireless, writing table and every convenience for the man who has found that a country 400 miles long, with perfect roads, offers insufficient scope to the driver who has a gait of 80 m.p.h. well within the possibilities of one finger and who will therefore seek fresh fields and pastures new—abroad.

Metallurgical research has as yet had insufficient time to give us aluminium compounds with the strength of steel, or reinforced compressed fabric with the lightness of flexible aluminium. The communal motorist of the future will have adequate opportunity for indulging in witticisms at the expense of the motorists of 1928. Of that prophecy at least we can be painfully certain!

CHERCHEZ LA FEMME!

A PLEA FOR THE UNIVERSAL RECOGNITION OF WOMEN AS FIRST-CLASS CAR DRIVERS BY MISS H. M. LISTER.

Miss H. M. Lister belongs to a band of experienced women drivers who have made it their business to uphold the cause of the fair sex in high-speed events. She has taken part in many races at Brooklands and has achieved an encouraging measure of success.

She is also an ardent motorist in the ordinary way and is, therefore, in a good position to judge whether women are equal to the task of handling cars under any conditions which may arise either in competitions or otherwise.

"CONGRATULATIONS!"

We offered Miss Lister a helping hand as she wriggled out of the cockpit of her racing Aston-Martin, having just completed two laps of the track at Brooklands from a standing start and at an average speed of just under 80 m.p.h., the winner of a hotly contested race in which some of the best-known drivers had taken part.

Eager spectators crowded round, and many were the congratulations added to our own. Then the crowd thinned and we fell to chatting with the victor, who, despite a somewhat frail-looking appearance, has a very tough constitution coupled with nerves of steel. This could be gauged from the fact that her 80 m.p.h. sprint—during which her car fled down the straight at between 90 m.p.h. and 100 m.p.h.—had left her quite calm, the only indication of the experience through which she had passed being the triumphal glint in her eyes.

"Still going as well as ever?" we questioned, running an approving eye over the streamlined body of the A.-M. Miss Lister nodded.

"And still as keen as ever?"

"Rather!" The exclamation denoted the feelings of one who has tasted both victory and defeat in one of the most exciting sports in the world and who has not found it wanting.

With some hesitation we put a leading question.

"Forgetting for the time being that there is a small circle of women who are temperamentally quite suited to drive cars both on the road and track, do you think that women make good drivers as a body, and do you share the opinion that the competition lists should be thrown open to every Jane, Jean and Milly?"

Miss Lister pondered for a moment or so before replying.

"You have referred to a small circle of women who drive racing cars and who, it is admitted, make just as good drivers as men. That in itself is an answer, but you must not try to corner me; I do not think that all women can handle high-speed cars any more than I think that every Tom, Dick and Harry is a born racing driver. The past few years have shown quite clearly that it is only the women who have the right temperament who go in for alleged 'nerve-racking' jobs like this"—she patted the Aston-Martin affectionately—"and in the same way I am convinced I am right in saying that the handling of ordinary touring cars is not necessarily within the province of all your Janes, Jeans and Millys; by way of comparison, I know lots of men who would rather be driven—even by a woman—than drive.

"Naturally, I, personally, am more intimately concerned with the position which women hold in the motor-racing world than that which they occupy in the field of ordinary touring, and time was when I found myself lining up at the start of a Brooklands race in almost a defiant spirit. For in those days—or so it appeared to me—motor racing was jealously guarded as a man's sport, and women who took part were regarded as folk who were trespassing beyond their rightful domain.

"This year we have made marked strides. I am told that the so-called problem which we present has been discussed in a number of committee-rooms and that the more level-headed men—those with racing experience in particular—have been all in favour of allowing women to take part in the best events, instead of relegating them to the entry lists of comparatively unimportant meetings.

"The argument is that these meetings are thrown open, as it were, to the whole of *man*kind, and that there is no way of barring inexperienced folk. Now, obviously, a bad male driver is just as dangerous as a bad woman driver, but whereas men will enter races for the fun of the thing, women tread with far greater care, and if they become keen on motor sport they will not attempt to skim the top edge of the banking until they have toured easily round the bottom edge of the saucer at a modest 'fifty'—which is, of course, the equivalent of learning to walk before you run.

"As one who claims—with all modesty—to be an experienced woman driver, I appeal most earnestly for generous and whole-hearted recognition of women as track drivers."

B15

ANIMALS ON THE HIGHWAY.

By a Barrister-at-Law.

AN EXPLANATION OF THE LEGAL POSITION OF MOTORISTS WITH REGARD TO STRAYING ANIMALS—FIXING THE BLAME AFTER AN ACCIDENT—ANIMAL OWNERS' LIABILITIES.

THE suicidal tendency of chickens and the habits of the various animals which use the highway create problems for nearly every motorist, and it will be useful, therefore, to give a short exposition of the law on the subject. The stories of the practice of some cottagers in the country, who are alleged to throw dead chickens into the road after a car has just passed, are perhaps exaggerated, but at the same time a knowledge of his legal position after an accident which results in the death of an animal should help to protect a motorist from illegitimate claims.

No motorist is liable for damage occurring to any man, woman, animal or object as the result of an accident to which he is a party unless the person who seeks to make him liable can prove positively that the accident occurred through the driver's negligence. The mere fact that a chicken is killed by a car gives the owner of the chicken no right of action against the motorist. He must show that the driver was in some way negligent and that his negligence resulted in the death of the chicken.

For instance, if the chicken was in the middle of the road and the motorist drove straight at it, hoping that it would disappear on his nearer approach, the owner would have some grounds for saying that the driver was negligent. On the other hand, if a chicken suddenly takes it into its head to rush across the road under the wheels of a car the driver will not be responsible. This will be the case even if he were driving fast, provided he can show that he would not have been able to avoid it even if he had been going at a reasonable speed.

Reasonable Precautions.

It is, of course, common knowledge that chickens and other birds are much more foolish than most of the animals which appear on the road. Bearing this in mind, the only duty of a motorist is to take such reasonable precautions as the average law-abiding man would take. Provided he does this he will never be legally responsible for the results of an accident.

There is, of course, no special law as to chickens, and the principle is the same with every kind of domestic live creature. The only difference is this: it is well known that some animals are more responsive to the sound of a horn and less likely to run under a car than others, and drivers must make use of this everyday knowledge when they have to deal with any particular class of animal. This is really only another way of saying that every driver must act reasonably and is presumed to have the general knowledge of an ordinary reasonable man.

There is, however, one qualification to the rule that if the owner of an animal can show that it was killed through a motorist's negligence he can recover damages. If the motorist can show that the accident was partly caused by the negligence of the owner of the animal as well as his own, the owner will not succeed in his action. What is negligent and what is not, is a question of fact. As in the case of the motorist, the only duty of an owner is to act reasonably. It would be unreasonable to expect him, in the case of a dog, to keep it on the lead all the time.

To prove negligence on his part the motorist would have to show that he did something unreasonable, such as owning a dog which always rushed for the wheels of a car, not keeping him on a lead when on a road frequented by cars, or at any rate not holding him when a car came in sight.

Proving Negligence.

Where, however, this can be proved, or the owner is in some specific way negligent, he is in the position of anyone else who causes damage by negligence, and he will be just as liable to a motorist who is injured without fault of his own, but owing to the negligence of the dog's owner, as a motorist who negligently runs over his dog will be liable to the owner.

The difficulty in the way of motorists is that it is very often very difficult to prove knowledge of an animal's vice on the part of the owner, and, unless this can be done, the owner cannot be found guilty of negligence, save in exceptional circumstances. According to English law it is not in the nature of any of the animals which use the highway—dogs, sheep, oxen and so on—to injure any person or thing. It has been held that the owner of sheep which overturned a motorcycle was not liable for the damage.

The mere fact that cattle are found straying on the highway is not of itself evidence of negligence. A bull which was being driven along the highway suddenly broke loose and smashed up a shop. As the bull had never shown any tendency to do this before its owner was held not liable, and it was held that to drive a bull along the highway was ordinary use of the highway and, therefore, not negligent. Finally, a court would not say that it was unreasonable for owners of chickens to allow them to feed by the roadside.

The law may, therefore, be summed up as follows:—

(i) A motorist is never liable for injuring or killing an animal unless its owner can prove that he was driving negligently and that the accident arose as a consequence of his negligence.

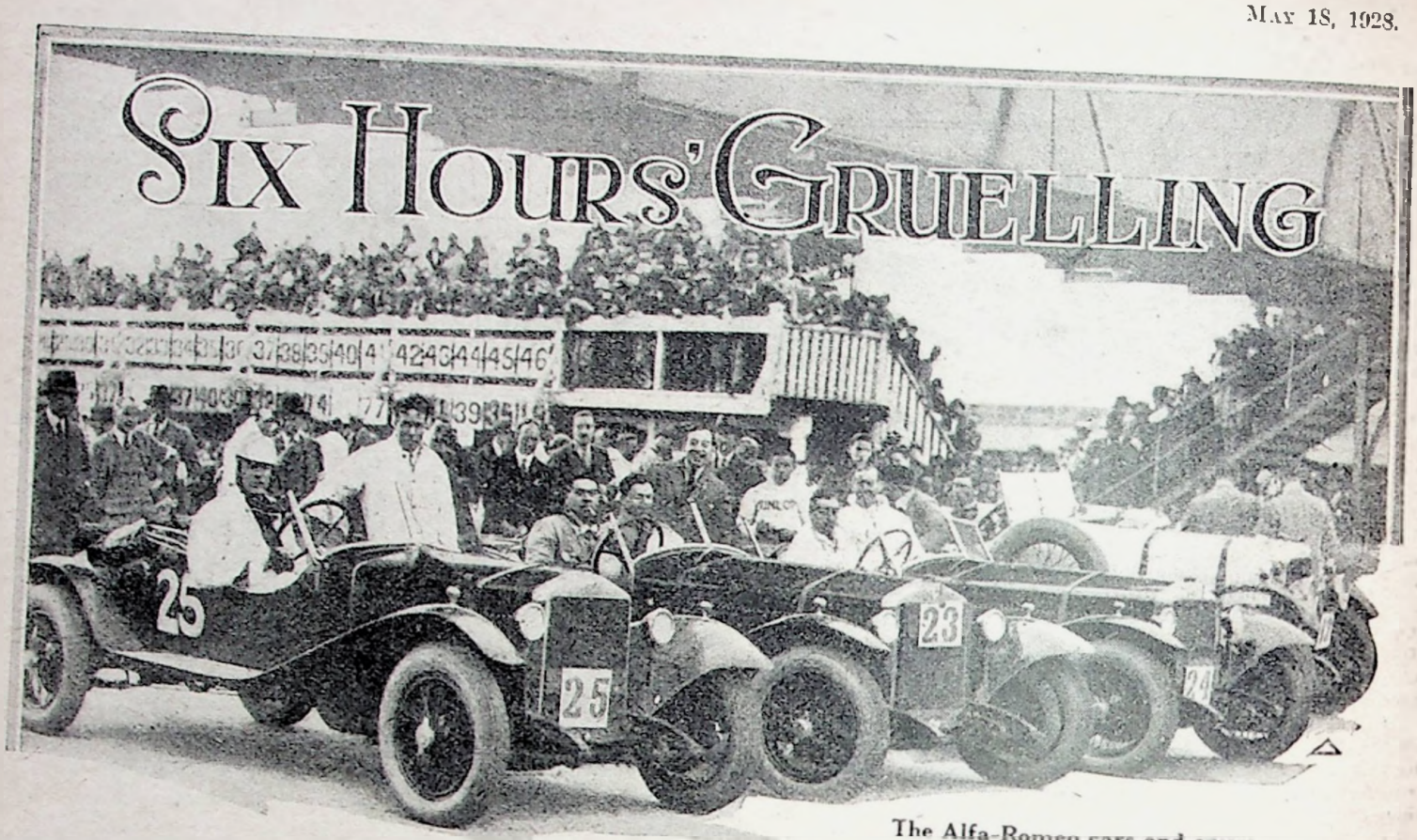
(ii) The owner of an animal will not be liable for any accident caused by it, unless it can be shown that he knew of the animal's tendency to behave in the manner which caused the accident, or was in some other way negligent.

(iii) Where negligence contributing towards the accident on the part of both the motorist and the animal's owner can be shown neither party has any claim against the other.


THE MAGIC CARPET
1928
THE OLD WEST GATE. Southampton
THE ROAD BY LOCH STRIVEN
GOLANT VILLAGE NEAR FOWEY
LUDLOW CASTLE.
MORNING MISTS ON BALA LAKE

B17

SIX HOURS' GRUELLING



The Alfa-Romeo cars and crews photographed after the race.

LIGHT CAR WINS PREMIER AWARD IN ESSEX MOTOR CLUB'S VERY STRENUOUS RACE FOR STANDARD SPORTING CARS AT BROOKLANDS ON SATURDAY LAST. THE 1,100 c.c. CLASS WON BY A BRITISH CAR—REMARKABLE PERFORMANCE IN THE 750 c.c. CLASS.

RAMPONI slipped off his crash helmet and dropped his goggles; and the majority of the spectators saw for the first time the face—flushed with victory—of this astonishing 26-year-old, dark-eyed, olive-skinned, curly-headed Italian who, having piloted his 1.485 c.c. Alfa-Romeo round a very trying course at the amazing average of 69.57 m.p.h. for six solid hours, equal to 417.44 miles, was the winner of the second Endurance Race promoted by the Essex Motor Club. There could scarcely have been more enthusiasm had it been an all-British victory, for no one grudged the success which had come to the brilliant young driver—a pupil of his ill-fated but distinguished countryman Ascari—and hearty congratulations were literally showered upon him.

By the comparatively narrow margin of only 16 miles he failed to complete the longest distance of any competitor in the race, and this honour, we are proud to record, fell to a British driver and all-British car, H. R. S. Birkin and his four-litre Bentley.

To obtain an abstract view of this great struggle of men against men and machine against machine in proper perspective you have thoroughly to grasp what it all means—the machines practically standard super-sports cars of touring type running flat out on commercial fuel for six hours over a course with far more bends than those which would have to be negotiated on a road circuit, starting handles sealed, ten laps with hoods erected and a compulsory stop to furl them, and so on.

No wonder the strain was too much for several of the smaller cars; but they put up a stern fight and we have

Gulio Ramponi, the 26-year-old driver of the winning Alfa-Romeo. He was mechanic to the late A. Ascari and afterwards to Campari, and has had a large experience in Continental track and road racing.

LIGHT CAR RESULTS AT A GLANCE.

1,500 c.c. Minimum mileage 330.

Driver and car.	Mileage.
G. Ramponi, Alfa-Romeo	417.44
C. Bruno, Alfa-Romeo	389.05
J. Dunfee, Alfa-Romeo	385.92

1,100 c.c. Minimum mileage 303.

K. S. Peacock, Riley	368.33
Vernon Balls, Amilcar	364.53
A. T. Gardner, Salmson	357.25
G. E. T. Eyston, Riley	349.12
F. J. Clarke, Salmson	342.64
W. E. C. Dary, Salmson	338.08

750 c.c. Minimum mileage 240.

J. P. Dingle, Austin	306.93

In addition to the awards mentioned at the end of this report, the above drivers qualified for gold medals for having completed the minimum mileage required in each class.

the consolation of knowing that for over a third of the race Davis's Riley Nine lay only a mile behind the fastest car of all. Two of the Riley team were "in at the death," Peacock's being the winner of the 1,100 c.c. class, whilst Dingle, playing a lone hand in an Austin Seven, also completed the six hours—with 118 laps—roughly 307 miles—to his credit.

Misfortune overtook the Frazer-Nashes; one of the Lea-Francises caught fire, the other being disqualified because, unthinkingly, the driver used his starting handle to test the compression of his engine; of the three Alvises which started one completed only 25 laps, the other two ran well, each completing 137 laps; the Amilcars put up a good show with 140 and 130 laps each; and the three Salmsons were undoubtedly convincing, that driven by F. J. Clarke covering 132 laps.

Under the able supervision of Chief Marshal H. R. Harveyson the organization went through without a hitch, and before telling the story of the race in detail we should congratulate the officials *en bloc* on the care with which the preliminaries were arranged and the whole event staged.

* * *

The fall of the semaphore and the sprints of the drivers and mechanics across the track to their cars was followed instantly by the double bang of the maroon—the signal that the gruelling endurance race had started.

There was very little delay in erecting hoods and starting engines. The only saloon car in the race, a three-litre Alfa-Romeo, was the first away, but this was very quickly followed by the

open cars in spite of many of them being fitted with Continental hoods. Singly and in bunches the 39 cars roared away from the starting point and jockeyed for positions in negotiating the bends near the paddock.

Lord Curzon (2-litre Bugatti) was the first to complete a lap, and he was closely followed by others of the large car drivers. The first light car round was one of the six-cylinder 1,485 c.c. Alfa-Romeos driven by G. Ramponi. Next in order came W. H. Green (Alvis), R. R. Jackson (Frazer-Nash), C. Bruno (Alfa-Romeo) and F. J. Clarke (Salmson).

There were no incidents of particular note during the first few laps, but on about his eighth lap Ramponi (Alfa-Romeo) stopped at his pit for exactly one minute to repair the hood. It was not long after this that the drivers, having completed 10 laps, began to come in to furl their hoods. Amongst the light cars W. U. Dykes (Alvis) was the first to stop; he was followed almost instantly by W. H. Green (Alvis) and the two got away again together.

Then came Capt. Frazer Nash (Frazer-Nash) and Ramponi (Alfa-Romeo). W. E. C. Davy (Amilcar) took advantage of his stop to adjust his shock absorbers, but A. V. Wilkinson (Riley), owing to a mistake, came in a lap too soon and, having partly lowered his hood, had to re-erect it and start off on another lap. J. P. Dingle (Austin) was the sole representative of the 750 c.c. class; he came in to lower his hood at about 11.34 a.m. and was very quick in getting away again.

Before the first hour's running was over trouble had beset some of the drivers. Lord Curzon (Bugatti) and but, a few minutes after restarting, he and his mechanic were seen running to the pits, having left their car stranded by the paddock grand-stand.

A broken magneto contact-breaker was the trouble, and it delayed them more than 20 minutes. When the new

A. T. Gardner (Salmson) makes a rapid wheel change at his pit.

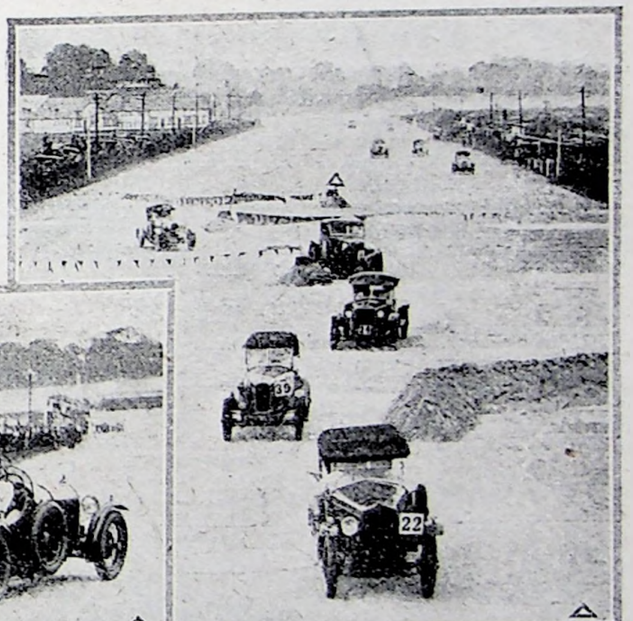
part was fitted the engine proved difficult to start, but at last they were away, only, unfortunately, to retire two hours later.

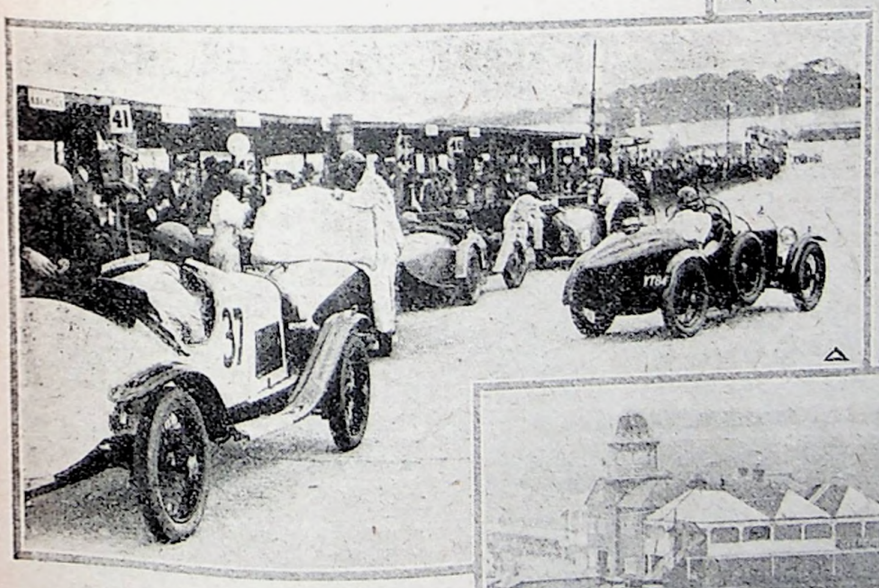
The very high speed of the three 1½-litre Alfa-Romeos was, by this time, particularly noticeable, but the wiseacres amongst the spectators, and even in the rival pits, said they would never stay the course. This opinion was based upon the fact that the front wheels of the cars, especially that driven by Ramponi, set up an amazing dither and wobble when, at high speed, the brakes were applied upon approaching the bends. The possibility or, even the certainty, of front-axle breakage was freely discussed, but subsequent events, as will be seen, showed the Alfa-Romeos to be perfectly sound.

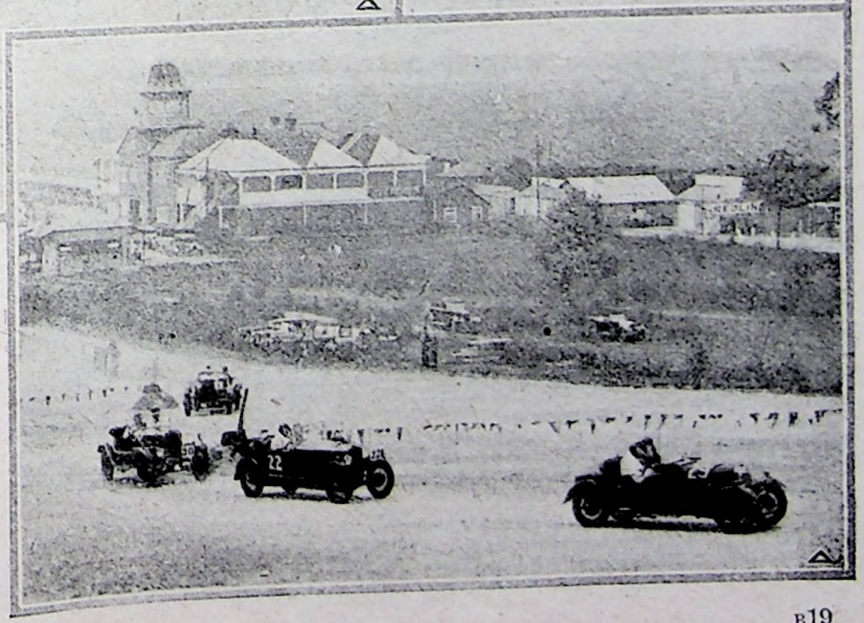
Three large cars, W. Barnato's Bentley, Capt. M. Campbell's Bugatti and H. R. S. Birkin's Bentley, in order, occupied the first three positions at the end of the first hour, but during the second hour Birkin took second place, with a big Austro-Daimler third. The speed of the leader was about 73 m.p.h., but Ramponi was showing what could be done with a 1,500 c.c. car and was averaging 69.46 m.p.h.

By this time the majority of the drivers had called at their pits for replenishments or minor adjustments. Not all of those who started were still running, however. The two Frazer-Nashes had retired, S. C. H. Davis (Riley) was out with big-end trouble, after having led the 1,100 c.c. class, and W. U. Dykes (Alvis) had retired.

(Right) Capt. Frazer Nash (Frazer-Nash) leading G. Newman (Salmson), C. Bruno (Alfa-Romeo) and two large cars round the bends.



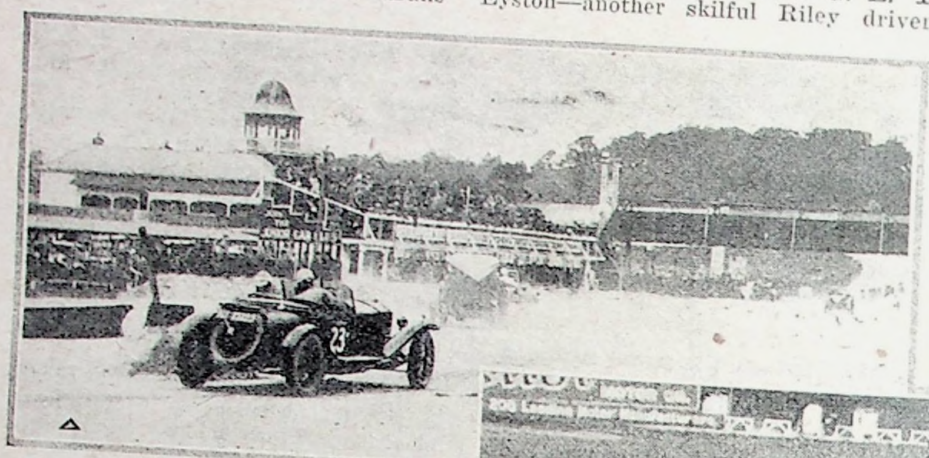


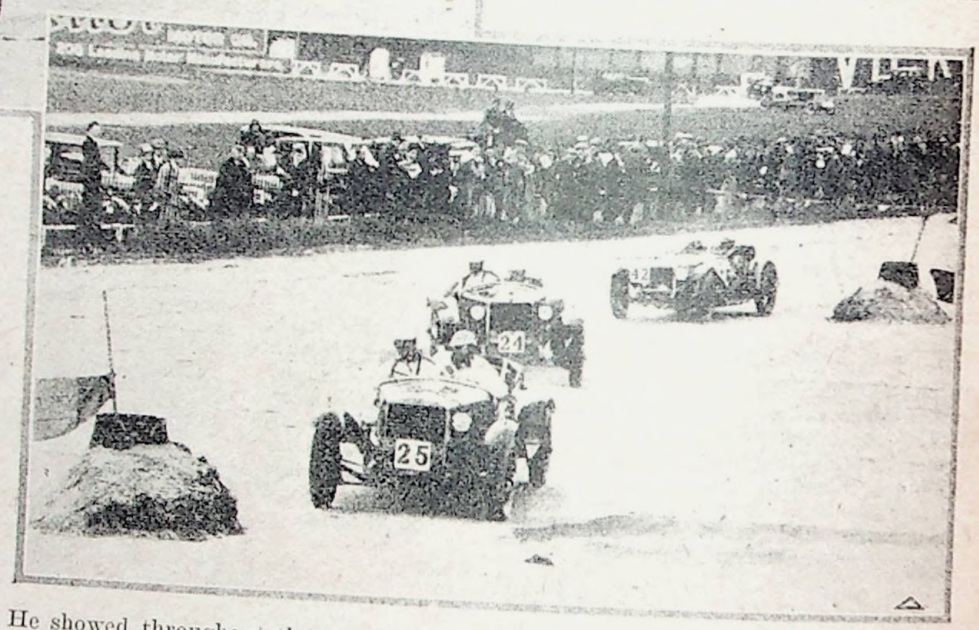


(Above) Furling hoods at the pits after the first 10 laps. F. J. Clarke (Salmson) is in the foreground, the Rileys are at the pit ahead and W. E. C. Davy (Amilcar) is just getting away. (Right) The ill-fated Lea-Francis rounding the bend at the top of the finishing straight.

Capt. A. G. Miller (6-litre Mercédès) had retired with engine trouble, and W. H. Green (Alvis) made a somewhat lengthy pit stop to examine his magneto and valve gear. Capt. Frazer Nash stopped to replenish his radiator

The Amilcars and Salmsons were going well and, of course, were very fast. George Newman (Salmson) gave up the wheel to his spare driver, A. Hasley, for an hour or so and then took on again. This car was lapping at about 62.52 m.p.h. Vernon Balls was lying third with 276.9 miles to his credit. K. S. Peacock (Riley) was driving very consistently and averaging 60.19 m.p.h., the distance which he had covered in four hours being 240.76 miles, whilst not far behind came G. E. T. Eyston—another skilful Riley driver.





(Above) G. Ramponi (Alfa-Romeo) cutting a corner near the paddock grand-stand. He is following the three-litre Alfa-Romeo saloon. (Right) J. Dunfee (Alfa-Romeo) leading his team mate C. Bruno and S. C. H. Davis (Riley).

(Amilcar) stopped once for 7 mins. to tighten his undershield and, during another stop for fuel, he changed places with his mechanic, who showed that he knew all about fast driving.

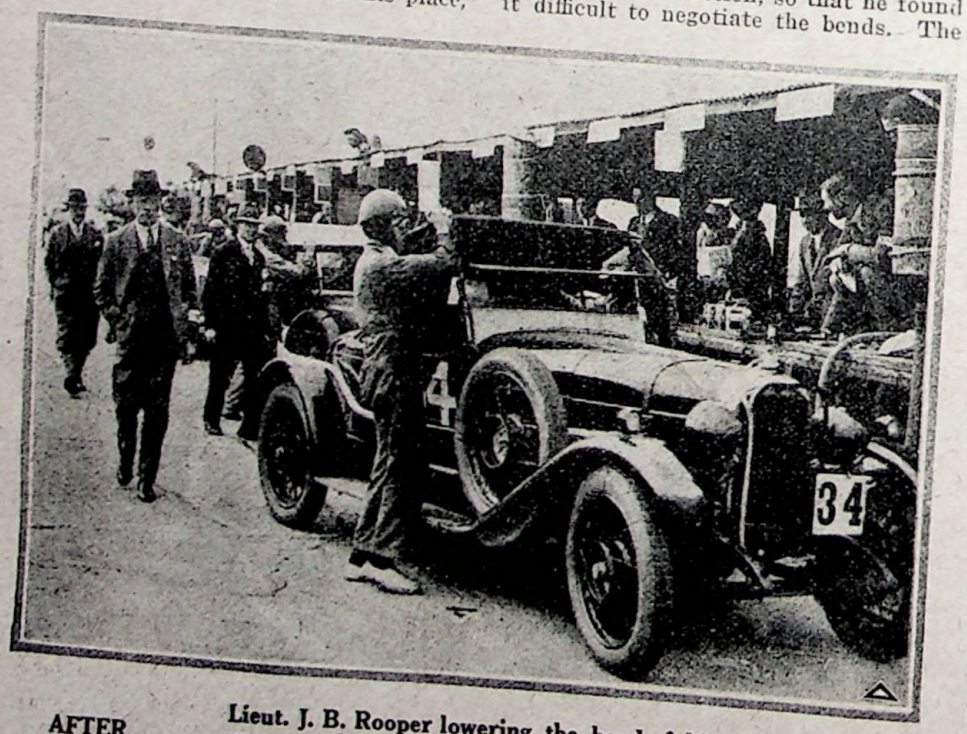
It was a great pity that the undershield should have come adrift, because Balls's Amilcar was very fast and, as all Brooklands habitués know, he is a past-master in handling an 1,100 c.c. car. As it was, his car finished second in its class.

At the end of the fourth hour the two Bentleys which were still in the lead had completed distances of 289.17 and 281.52 miles respectively, whilst Ramponi in his Alfa-Romeo, refusing to be shaken off or to surrender his place, He showed throughout the race that he was quite as much at home in a Riley as in his record-breaking Bugatti.

A. V. Wilkinson was having trouble with his Riley, however. His third gear was out of action, so that he found it difficult to negotiate the bends. The result was that drastic gear-changing methods, compulsority adopted, caused the selector lever to bend. Wilkinson spent some time at his pit trying to put this right, but in the end he decided to retire. Another unlucky Riley driver was Lionel Martin, who had to retire on his 39th lap.

The two Lea-Francis drivers also suffered ill-luck, especially F. Hallam, who had taken over S. H. Newsome's car. He called at his pit with fuel-supply trouble and afterwards, in trying to make up time, shot through the barrier of flags at one of the artificial bends. His car skidded completely round, but Hallam retained control and got it back on to its course.

Whether or not this skid had any effect upon his next and most unfortunate trouble must, presumably, remain in doubt—a leaky petrol pipe sounds more like the cause—but soon after turning into the railway straight the car caught fire. Luckily, Hallam was able to pull up and jump out with his mechanic, both being unhurt; the car, however, was completely burnt out.



AFTER TEN LAPS. — Lieut. J. B. Rooper lowering the hood of his Alvis. No time was wasted over this job, few drivers taking more than two minutes. Engines had to be stopped and afterwards restarted with the electric starter.

A word must be said in praise of the Austin driven by J. P. Dingle. In spite of clutch trouble this car averaged over 50 m.p.h. and made only three stops at the pits throughout the race. Part of the time it was driven by J. H. S. Wilson whilst Dingle had a rest and some refreshment. By completing 67 miles in excess of the minimum of 240 required of cars in the 750 c.c. class, Dingle came very near to winning the premier award for the race. His average speed over the total distance was 51.16 m.p.h.

Habitués of Brooklands have become so accustomed to seeing Salmson cars victorious in various events that they will the more readily sympathise with the drivers of this make in their misfortunes last Saturday. With less than an hour to go George Newman's car broke a rear shackle bolt and, although he was anxious to continue, he was advised to withdraw, and this he did. F. J. Clarke and A. T. Gardner in their respective Salmsons had few pit stops, but neither was quite fast enough to overtake K. S. Peacock (Riley), who was leading the 1,100 c.c. class.

At the end of five hours three Bentleys were leading the field, Clements, driving Capt. Barnato's car, having

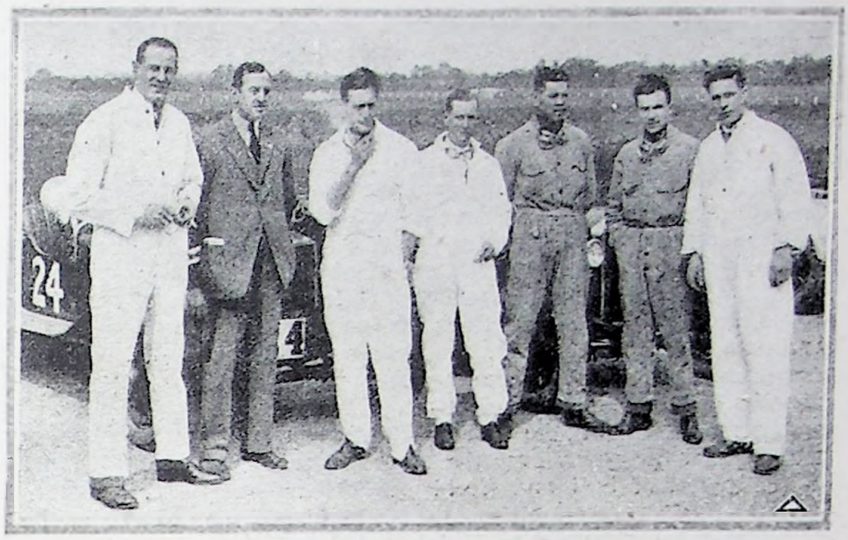
wrested third place from Ramponi (Alfa-Romeo). The leading Bentley, driven by H. R. S. Birkin, had then covered 359.58 miles at an average speed of 71.92 m.p.h.; whilst Ramponi, in fourth place, had 348.35 miles to his credit, his speed being 69.67 m.p.h.

In the 1,100 c.c. class K. S. Peacock (Riley) had done 303.05 miles, averaging 60.61 m.p.h., with F. J. Clarke (Salmson) second (301.57 miles, 60.31 m.p.h.). J. P. Dingle (Austin), in the 750 c.c. class, had a total mileage of 253.2 and his speed was 50.64 m.p.h. Thus it will be seen that, with an hour's running in hand, he had already exceeded his minimum-required mileage by 13.2 miles.

What was the most exciting incident of the race? Some might say it was the burning out of Hallam's Lea-Francis, but the majority will agree that it centred in the lasting qualities of Ramponi's near-side rear tyre. With less than half-an-hour to go it was seen that the tread of the tyre was worn away to the canvas.

The pit attendants signalled Ramponi to stop, but either he did not see the signals or else he disregarded them. The attendants became desperate and tried to make their signals more urgent, but all to no purpose. It was feared, of course, that the tyre would burst and perhaps involve the car in disaster or, at the best, delay it badly by giving out far away from the pits. Fortunately, nothing serious happened when the tyre finally gave out, but there were only four minutes to go before the race was stopped.

Was there time to change the wheel and get away? Plenty! In less than two minutes Ramponi was off again, having showered the pit attendants with the jack and tools he used for wheel changing, and which, as he speaks no English, they had found difficulty in making clear to him must be returned to the pit before he could restart. Ramponi retained his position in the race, whilst in his class the nearest cars were the two other Alfa-Romeos driven by his team mates, C. Bruno and J. Dunfee.



THE ALFA-ROMEO TEAM. — The drivers and mechanics of the victorious Alfa-Romeo cars which finished first, second and third in the 1,500 c.c. class.

Of the 39 cars which started in the gruelling race 25 finished, but six were outside their time limit. Particularly unfortunate in this respect was R. M. V. Sutton (Lea-Francis), who was well in the running until his retirement, which was caused by a breach of the technical regulations.

Having pulled up at the pits with engine trouble, he unthinkingly engaged the starting handle and turned the engine to trace the defect, whereas the rules required that only the starter should be used. This happened just before the end of the race when Sutton had covered 321.77 miles—about eight miles less than the required minimum for his class.

The waving of the chequered flag and the bursting of a maroon announced the end of the race at 5 p.m. The provisional results are as follow:—

The Premier Award presented by the promoting club for the car covering the greatest distance in excess of the minimum mileage for its class, Sig. Ramponi (Alfa-Romeo) (excess mileage 77.44).

The Barnato Cup for the greatest mileage in the race, H. R. S. Birkin (Bentley); total 433.64 miles.

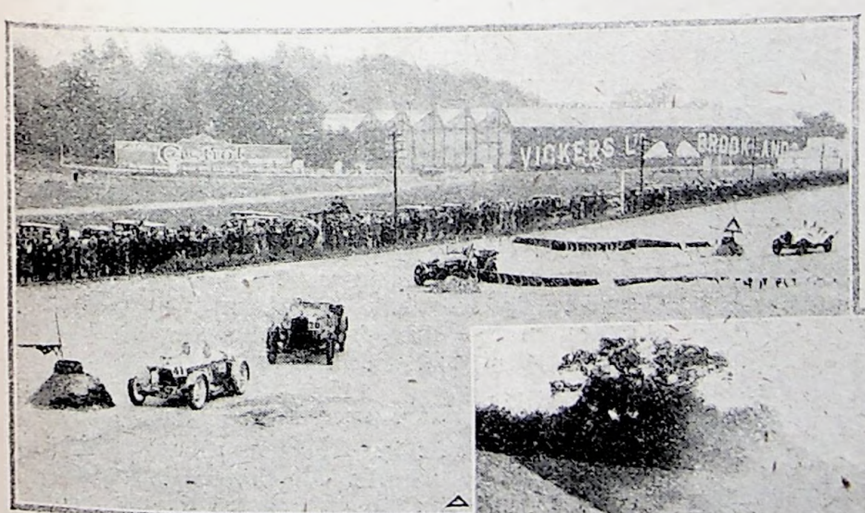
The Henly Cup for the greatest mileage in the 1,500 c.c. class, Sig. Ramponi (Alfa-Romeo).

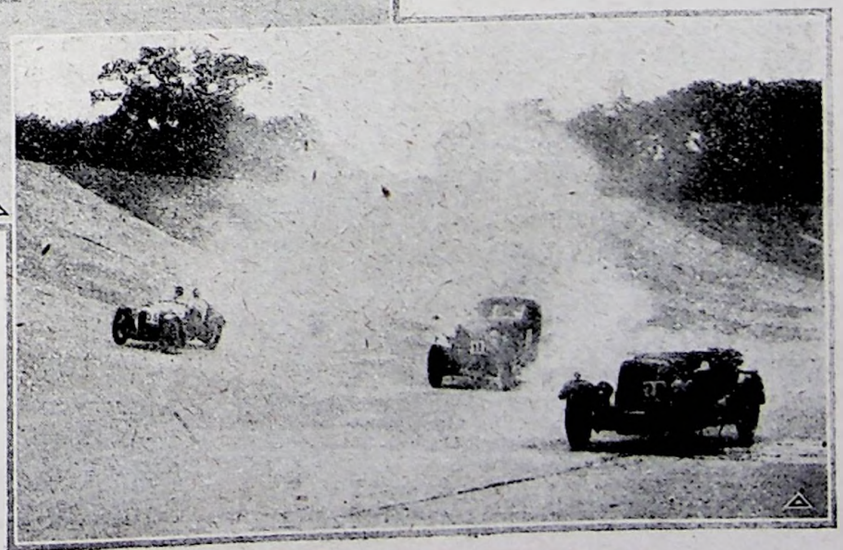
Silver Cup presented by the promoting club for the greatest mileage in the 1,100 c.c. class, K. S. Peacock (Riley), 368.33 miles.

An Essex Special gold medal goes to J. P. Dingle (Austin) for having covered a total of 306.93 miles in the 750 c.c. class.

Second and third places respectively in the 1,500 c.c. class were taken by Bruno (Alfa-Romeo) and J. Dunfee (Alfa-Romeo).

In the 1,100 c.c. class Vernon Balls (Amilcar) was second, A. T. Gardner (Salmson) third and G. E. T. Eyston (Riley) fourth.





(Above) A. V. Wilkinson (Riley) cuts in close to a bend "mark buoy." The very low build of the Riley shows up against the higher 2-litre O.M. which is following. (Right) Vernon Balls (Amilcar), well up the banking, passes the burning Lea-Francis which was driven by F. Hallam. The car in the smoke-cloud is L. Headlam's 3-litre Alfa-Romeo, the only saloon in the race.

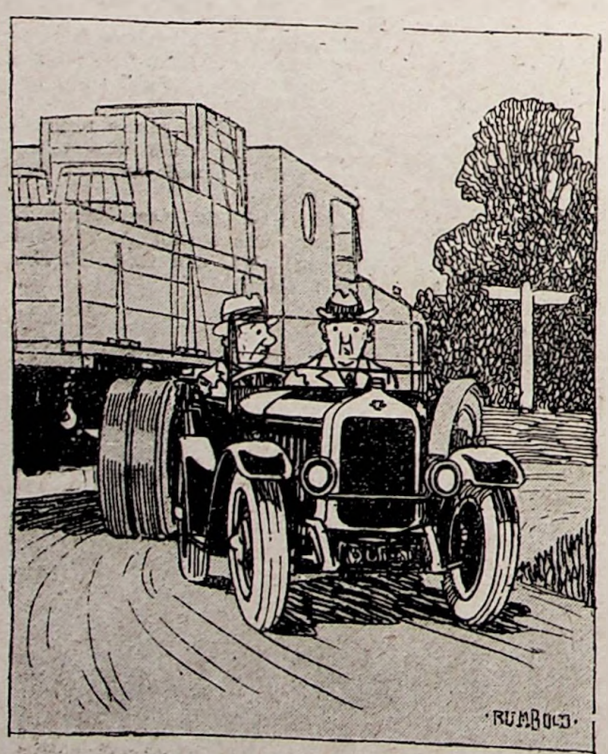
Whitsun Weather.

LET us hope that this Whitsun Number will make its appearance under sunny skies and with promise of a really fine holiday a week hence. Whitsun weather has been poor for several years and has managed to spoil what should be the most pleasant motoring holiday of the year. With the new green upon the trees and the countryside looking at its very best, the three days on the road which most of us are able to enjoy should provide memories which would last for ever. My recollections of the past few Whitsun holidays, however, are that we suffered from something akin to the weather which one usually gets at Motor Show time. Three years ago competitors in the London-Edinburgh run had to plod their way over the Beef Tub through a heavy fall of hail and sleet!

By Scooter to Edinburgh.

THE Motor Cycling Club's run to Edinburgh still holds pride of place as the premier sporting event of the Whitsun holiday. This year its character has been completely changed by the inclusion of The Stake, which, as all Yorkshiremen know, is a distinctly formidable hill—something quite different from the easy climbs to which regular London-Edinburgh competitors are accustomed.

Last year, of course, following requests from some of the younger members, the committee of the M.C.C. stiffened up the run by putting in a "colonial" section, which competitors had to tackle between the Border and the finish. As this section is being retained this year and The Stake added it will not be surprising if some of the regular gold medallists find their work cut out to maintain their reputations. Until two or three years ago the London-Edinburgh run was



"That lorry feller ought not to come round corners like that. It would have served him right if we had SMASHED INTO HIM."

B22

treated with contempt by enthusiastic competition drivers—so much so, in fact, that a motor scooter once came to the start. If my memory serves me, it got past Doncaster before being withdrawn, and maintained its 20 m.p.h. schedule speed for at least the first 100 miles.

Leicestershire's Village Names.

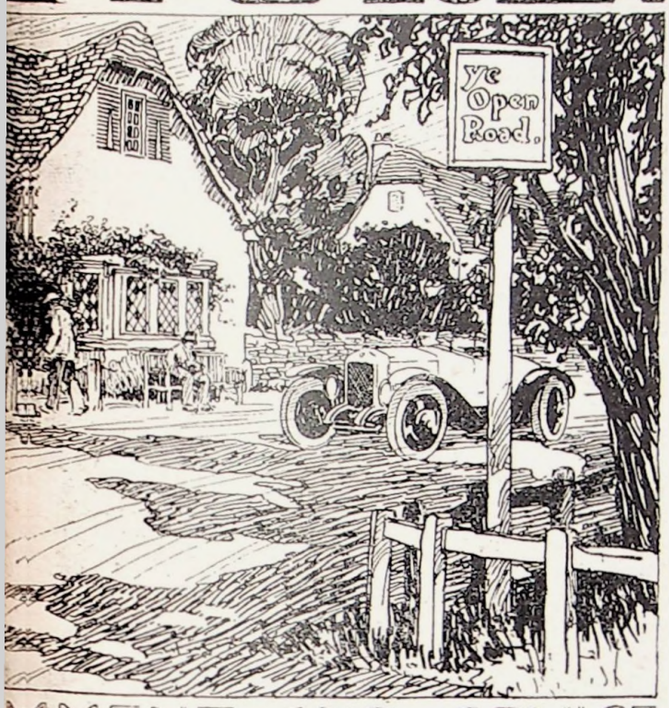
A LEICESTER reader has sent me a list of very interesting place-names in his county which bear out my recent comments concerning the frequent use of the old word "Magna" for village names in Leicestershire. In the list he sends me there are no fewer than a dozen villages with "Magna" or "Parva" suffix, and it is noteworthy that wherever there is a "Magna" there is also a "Parva," except in the case of Ashby Magna and Ashba Parva. It is interesting to speculate upon the cause of the final "y" being replaced by an "a." Incidentally, what a good indication this provides of the way that place-names get altered with the passing of years!

When is a Car——?

A FRIEND of mine who was allowing his wife to hold the wheel while the car moved slowly down a gentle incline on a by-road was pounced upon by a zealous rural constable, who demanded the lady's driving licence. This being the first time she had ever occupied the driver's seat, and the experience being entirely in the nature of an experiment, she had no licence, and the policeman promptly proceeded to take particulars in preparation for a summons.

My friend then pointed out that the engine was not running and the gear was in neutral and the vehicle was not being propelled by any mechanical means; consequently, he argued, it was tem-

XTURE.



MMENT AND ADVICE

By Focus

porarily in the same category as a soapbox on wheels, and no one required a licence to steer it. The constable was unconvinced and said he would report the matter to his superior officer. There the matter remains at present, and the car owner is wondering what the sequel will be.

The Coaching Influence.

ONE is apt to be impatient sometimes at the way traditions of horse-carriage design remain linked up with motors, but it is interesting to note how similar influences persist on railways even after a century of development. A railway official tells me that the word "coach" has come right down from the time when railways first competed with stage coaches, and that some of the colour schemes and the very shape of railway carriages were originally imitations of these vehicles. Moreover, the naming of engines was copied from the custom of giving names to the "high-fliers" (another term being applied on railways), which formerly achieved the velocity of 10 m.p.h. on the road.

Another relic of the coaching days is seen in the word "guard." I believe it is a fact, too, that the present gauge originated from the width between the wheels of the average cart.

A Trailer Boom.

TRAILERS, I learn, are booming, although I must admit that one seldom sees them on the road. Perhaps over the Whitsun holiday they will emerge from their present obscurity. I gather from makers of trailers intended for use with small cars that the requirements of most customers are simply a light two-wheeled vehicle to use for luggage, camping kit and so forth. In most cases they are required for use behind a four-seater which is taken on tour with a full complement of passengers. This, of course, is far and away the cheapest way to tour by car, and I can well believe that the cost of a trailer and camping kit would be more than saved during the first season's use.

Cyclists' Reflectors.

ALTHOUGH the new lighting regulations have now been in force for nearly a month, large numbers of cyclists are ignoring the need for a rear red lamp or reflector, and are calmly continuing as before. Coming home on a recent evening, I overtook more than a dozen cyclists who had no reflectors. I was just wondering when the police would begin to take action in such cases when my headlamps fell on an unmistakable "man in blue" cycling ahead. He had no reflector, either!

In conversation with a cycle accessories dealer next day I learned that there is a very large number of cyclists absolutely ignorant of their new responsibilities. This seems incredible, but I was assured that it is the fact.

Prompting the Chancellor.

AFTER the staggering result of the petition in favour of a petrol tax it behoves motorists to be very wary of placing any other weapon in the hands of such a strategist as Mr. Winston Churchill. For instance, there has been considerable talk about a tax on tyres. It cannot be doubted that if the Chancellor were presented gratis by motorists with any arguments as to how such a tax could be equitably worked, he might turn the blade towards us when the occasion needs.

The Wife (recovering her senses): "Now perhaps you CAN get that beastly pipe of yours alight!"

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As I have pointed out before, Mr. Churchill has rescued the Government from financial difficulties by the simple expedient of mulcting a class which gets no sympathy from the rest of the public. He made motorists—by raiding the Road Fund—pay the whole cost of the coal subsidy which was to have prevented a disastrous strike, but which did nothing of the kind.

Having succeeded in this master stroke, the Chancellor proceeded to take several millions a year out of the Road Fund as a "luxury tax," and now, sure of his public, he piles an additional impost on our shoulders. Can one wonder that the daily Press applauds? This attitude towards motorists, this talk about patriotism, and similar clap-trap from Fleet Street, reminds me powerfully of the nauseating stuff written during the war by fit men who, sheltering in protected jobs, exhorted other men to be patriotic and fight.

Tyre-fitting Wrinkles.

THOSE who do not know the many little wrinkles which are learned by experience often have the very dickens of a job to fit a stiff new tyre. A typical little scene of the kind in which we have nearly all figured in the rôle of hero greeted me at a friend's house a few Sundays ago. On the wash in front of the garage was a wheel with a tyre about half on and half off. Standing glowering at it was my usually most complacent friend, nearby stood his rather shocked-looking small daughter and at a discreet distance, with its tail well between its legs, stood the dog. That tyre had defied all efforts for nearly a couple of hours.

So we started from the very beginning. First the beads were smeared with domestic black-lead and then one side was fitted. Next the tube was inserted, just inflated so that it was not absolutely flat, and the serious work begun. About two minutes later the cover was in place and ready for inflation.

They Need Mastering.

THIS seeming miracle was very easily explained. My friend had never heard of using black-lead on the beads; he had been trying to force the cover on to the rims whilst there was far too much air in the tube, and he had not learned that when fitting beaded-edge tyres it is necessary to take very small "bites" with the tyre levers. The easiest way in the long run—and the quickest—is to ease an inch or two of the cover into place at a time rather than to use tremendous force, endeavouring to save time by grappling with six inches or so at each "bite."

Straight-sided tyres and well-base rims, of course, present troubles of their own, and experience or tuition by an expert provides the only means for learning to become their master. When they were first introduced I bent all my levers double trying to force them into place. To-day, by way of contrast, I can slip them on without the least exertion.

PERSEVERANCE REWARDED. — **The coast roads of Britain are mostly narrow and intricate, but there would be no finer way of spending the Whitsun holiday than exploring a strip of coastline. There are many pleasant spots like this, especially in Essex.**

B24

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"THE LIGHT CAR AND CYCLECAR" WAS FOUNDED IN 1912 TO CATER FOR THE NEEDS OF USERS AND POTENTIAL PURCHASERS OF LIGHT CARS AND CYCLECARS, AND IT HAS CONSISTENTLY ENCOURAGED THE DEVELOPMENT OF THE ECONOMICAL MOTORING MOVEMENT FOR OVER FIFTEEN YEARS.

NO CAR WITH AN ENGINE CAPACITY EXCEEDING 1,500 C.C. (1½ LITRES) COMES WITHIN THE SCOPE OF THIS JOURNAL, THAT CAPACITY BEING GENERALLY RECOGNIZED AND ACCEPTED AS THE LIMIT FOR A LIGHT CAR ENGINE.

Topics of the Day

The Whitsun Holiday.

WITH the advent of Whitsun the touring season begins in earnest, and next week-end will mark the first long trip of many a novice. At the present time maps and guide books are being unearthed and anxious discussions—seasoned with the spice of eager anticipation—are taking place. If we may be allowed to butt in, as it were, on these consultations, we should like to offer a few words of advice, particularly to the tyro. The first matter to be settled on these occasions is summed up in the one word "where," and although an experienced driver knows exactly how far he finds it comfortable to go in a day, a newcomer is often apt to arrange a far too ambitious programme. It is much better to plan a modest trip and extend it if time allows.

So much for mileage. The other important point is to decide the actual route. Roads leading to popular resorts are almost certain to be crowded during the holiday, and nothing is more worrying to a man with but a few hundred miles' driving experience than to have to cover mile after mile in an almost continuous procession of cars, motorcycles and bicycles. There are thousands of miles of roads and lanes in this country which are exceedingly beautiful, but which, so far as holiday-makers are concerned, "lead to nowhere" and are comparatively free from traffic; they offer innumerable secluded picnic spots, and an exploration of them forms an ideal way of spending a restful care-free holiday. For the novice, therefore, a route embracing roads of this type has everything to recommend it.

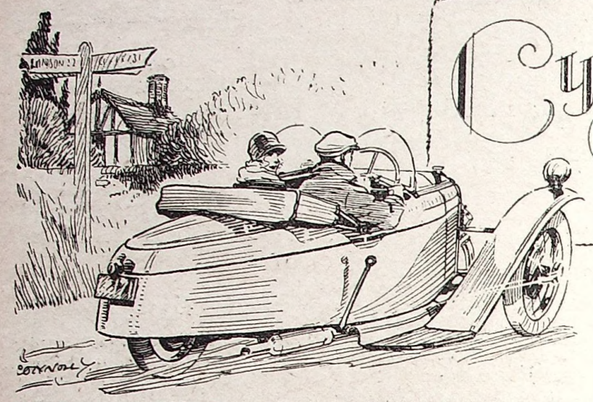
Improving the Breed.

THE impression left on the minds of hundreds of people at the close of the Essex Motor Club's Six-hour Endurance Race was that there is room for more tests of a similar nature—tests calculated directly to improve the breed which represents in super-tuned form the type of car the public is "buying over the counter." As a spectacle the race, naturally, was not very exciting; on the other hand, it was far from tame. Unquestionably, the folk who obtained the most fun from it were the drivers, mechanics, pit personnel and, possibly, the hard-worked officials, which is really as it should be, for, after all, it was not a dirt-track event, and the circus atmosphere has long since departed from artificial bends. The chief value of the test was that only practically standard super sports cars were allowed to take part, the cars had to cover a set minimum distance, according to class, in six hours of continuous running, whilst, of great importance, the fuel used had to be similar to that obtainable under ordinary touring conditions. Very much the same regulations govern events like the J.C.C. high-speed trial and sporting car race, whilst the chef d'œuvre of tests of this kind will be provided by the Grand Prix for sporting cars to be run off in August at Ulster. We trust that discerning motorists will pay due regard to the value of the data obtainable from these really practical and useful tests of endurance.

Confusing Traffic Signals.

MAY we once again ask chief constables to keep an eye upon the signals of point-duty police operating under their control? There is still an almost total lack of uniformity in the methods adopted in different localities, with the result that drivers who are not aware of the whims and eccentricities of the police in a certain town are extremely likely either to get themselves into trouble or to suffer the indignity of being publicly "ticked off." In addition, of course, there is a far graver aspect to be considered. We refer to the risk of accidents which careless, thoughtless or incomprehensible police signals involve.

The mistake which all erring constables make is that they try to do two things at once. They try to stop one stream of traffic and to beckon on another. There should be no need for beckoning on. If the constable is stationed in a suitable manner and employs the recognized signals and no others, the meaning is as clear and unmistakable as the meaning of railway signals. If, on the other hand, he endeavours to stop one stream of traffic and beckon on another, both functions are performed inefficiently and both signals are confusing—especially to strangers. It must be remembered that in these days local services have others to serve than locals. Roadways and everything connected with them must be regarded as national institutions schemed to serve not only residents in the immediate locality but travellers from all parts of the country.



Cyclecar Comments

BY SHACKLEPIN

A QUICK ENGINE OVERHAUL FOR WHITSUN—J.A.P. MAINTENANCE HINTS—SIDE-VALVE AND O.H.V. MODELS—MORGAN SPARE PARTS IN LONDON.

THE majority of Morgan owners are fully conversant with their machines and they require very little help when questions of engine overhaul or tuning arise, but I believe that there is also a large number of novices running either new or second-hand Morgans who probably do not know very much about their engines. At this time of the year, with the Whitsun holiday looming up ahead, every owner will be anxious to have his vehicle in tip-top condition, and there is just time for a quick overhaul before enjoying a few days' respite on the open road.

J.A.P. engines have always been very popular amongst Morgan enthusiasts, and I propose, therefore, to give a few hints with regard to tuning the o.h.v. and side-valve types. If the engine has been in use for some little time it will be advisable to decarbonize it and to drain the crankcase. With the side-valve type of engine it will be necessary to remove the cylinders for decarbonizing, and before this can be done the induction and exhaust pipes must be disconnected.

* * *

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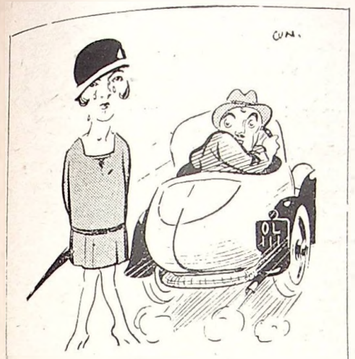

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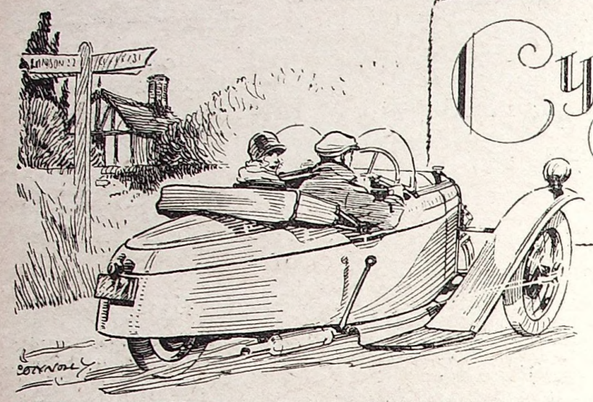

Cyclecar Comments

BY SHACKLEPIN

A QUICK ENGINE OVERHAUL FOR WHITSUN—J.A.P. MAINTENANCE HINTS—SIDE-VALVE AND O.H.V. MODELS—MORGAN SPARE PARTS IN LONDON.

THE majority of Morgan owners are fully conversant with their machines and they require very little help when questions of engine overhaul or tuning arise, but I believe that there is also a large number of novices running either new or second-hand Morgans who probably do not know very much about their engines. At this time of the year, with the Whitsun holiday looming up ahead, every owner will be anxious to have his vehicle in tip-top condition, and there is just time for a quick overhaul before enjoying a few days' respite on the open road.

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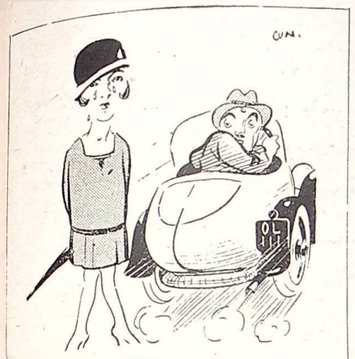

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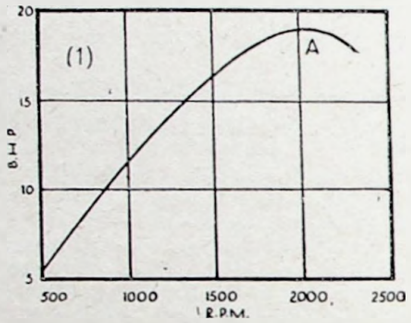
EASING THE BURDEN OF THE BUD

WAYS AND MEANS BY WHICH SOME OF THAT EXTRA 4d. CAN BE SAVED—SIMPLE PRECAUTIONS AND ELABORATE MEASURES—HOW DRIVING METHODS AFFECT FUEL CONSUMPTION.

NOW that petrol costs 4½d. per gallon more, the majority of owner-drivers will be seeking ways and means by which the fuel consumption of their engines can be reduced. Probably nine owners out of ten will start by retuning their carburetters; certainly these instruments play a very important part in the matter, but they are by no means the only factor governing the total m.p.g. obtainable from an engine. Before considering carburetter tuning, therefore, it will be instructive to examine other avenues leading towards fuel economy. It must be remembered, in the first place, that careless tank-filling is a fruitful cause of petrol waste, and probably, in the course of a year's running, amounts to several gallons.



The power curve of a well-known light car engine. The maximum is developed at A, which is the peak of the curve. At higher speeds the power decreases.

Overfilling the tank can be avoided by the use of an accurate gauge or a calibrated dip-stick, which, by showing how much petrol is already in the tank, will enable the owner to find out exactly what quantity of additional fuel to take in whilst still leaving an inch or two of space in the tank.

The pump operator at every filling station is careful to raise the flexible pipe after pumping, so that the last drops are drained into the tank. Some drivers, however, are apt to be impatient and to shut off the valve or to lift the nozzle out of the tank orifice whilst the petrol is still running. Quite a lot of paid-for fuel can be lost in this way.

Filling Up from Cans

If petrol is purchased from cans—in itself a more expensive way of buying than from pumps—much waste may occur if the can be held with the orifice downwards. This causes violent gulping and splashing, owing to the air not having a free passage into the can. The correct way is to hold the can on its side with the orifice at the top; the air can then find its way in easily and the petrol flows out in a smooth stream.

A large funnel should be used or, preferably, a pouring nozzle which screws on to the can orifice. By using one of these devices, incidentally, the need for holding the can in any special way is avoided.

Farther on in this article the question of jet and choke sizes is dealt with, but it will be appropriate to mention here that every precaution should be taken to see that there are no leaks in the pipeline. A "sweating" petrol tap or union may mean the loss of several miles per gallon, whilst a carburetter which floods badly when the engine is standing must not, in any circumstances, be tolerated. In fact, undue flooding or excessive use of the strangler for starting should always be guarded against, as both practices cause petrol waste.

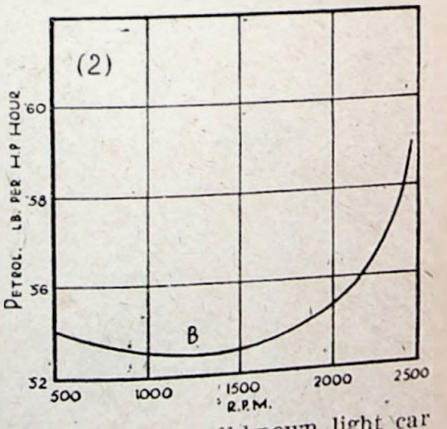
In this connection it may be mentioned that the correct setting of the sparking-plug points plays an important part in obtaining an easy start and in subsequent smooth running. With regard to the strangler, it is advisable to make sure that it cannot remain

When filling from a pump take care to drain the last dro pipe—they make a big difference to the annual fue

partly closed under running conditions, because this will mean heavy consumption.

It will be interesting now to see how far driving methods can affect fuel consumption, after which we will discuss carburetter tuning and valve timing.

When a petrol engine is placed upon a test bench and the b.h.p. it develops is measured under various conditions, a set of results is obtained which gives a graph similar to that shown in Sketch 1, which is an

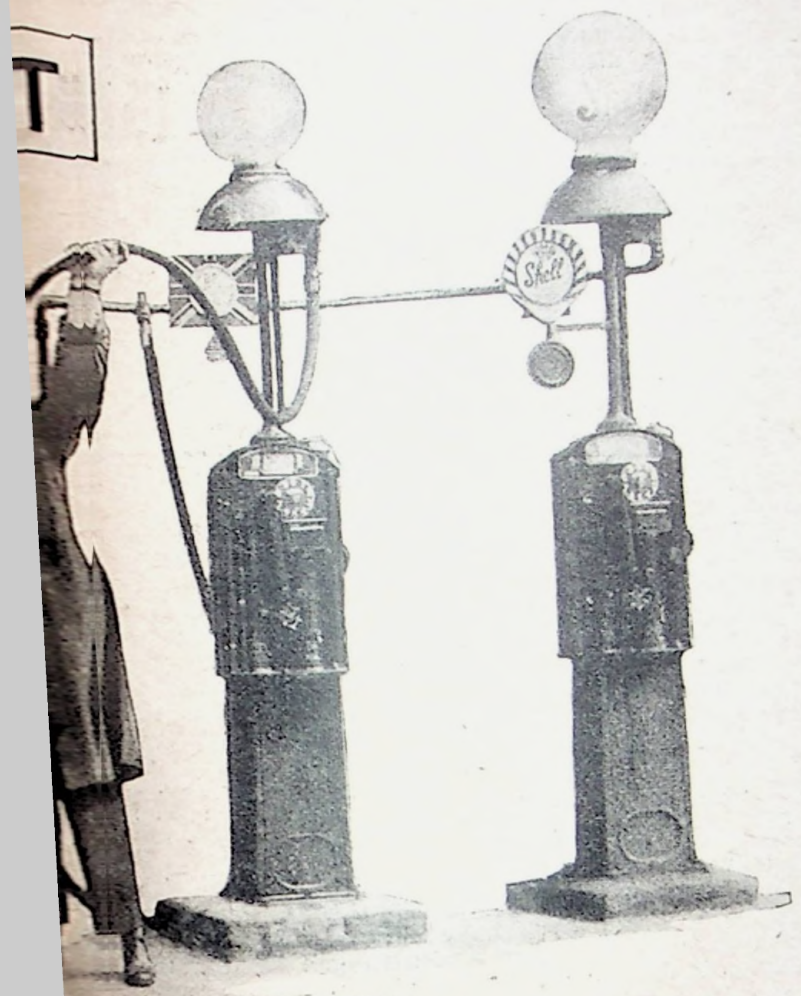


This graph shows petrol consumption in relation to engine speed. It is plotted to the same scale as the b.h.p. curve (1). The point B denotes the most economical speed.

actual example obtained from a well-known light car engine.

It will be observed that there is one set of conditions, represented at A on the graph, in which the engine develops its maximum power, and it should be noted that this point is not usually that at which the engine is making its maximum revolutions.

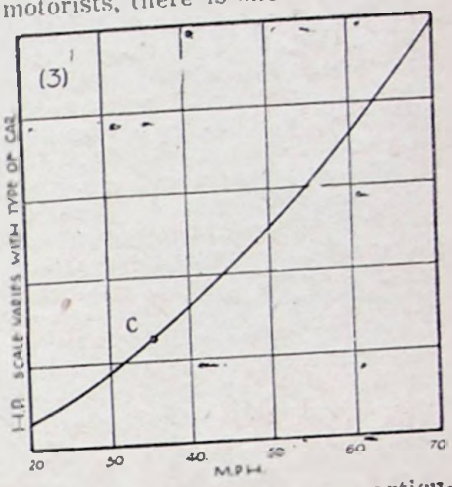
If a second test be made from which a graph is plotted showing the relation between r.p.m. and the consumption of petrol in lb. per b.h.p. per hour, we obtain a graph such as that shown in the second



60 m.p.h. the energy absorbed is about nine times that necessary to maintain a speed of 20 m.p.h.

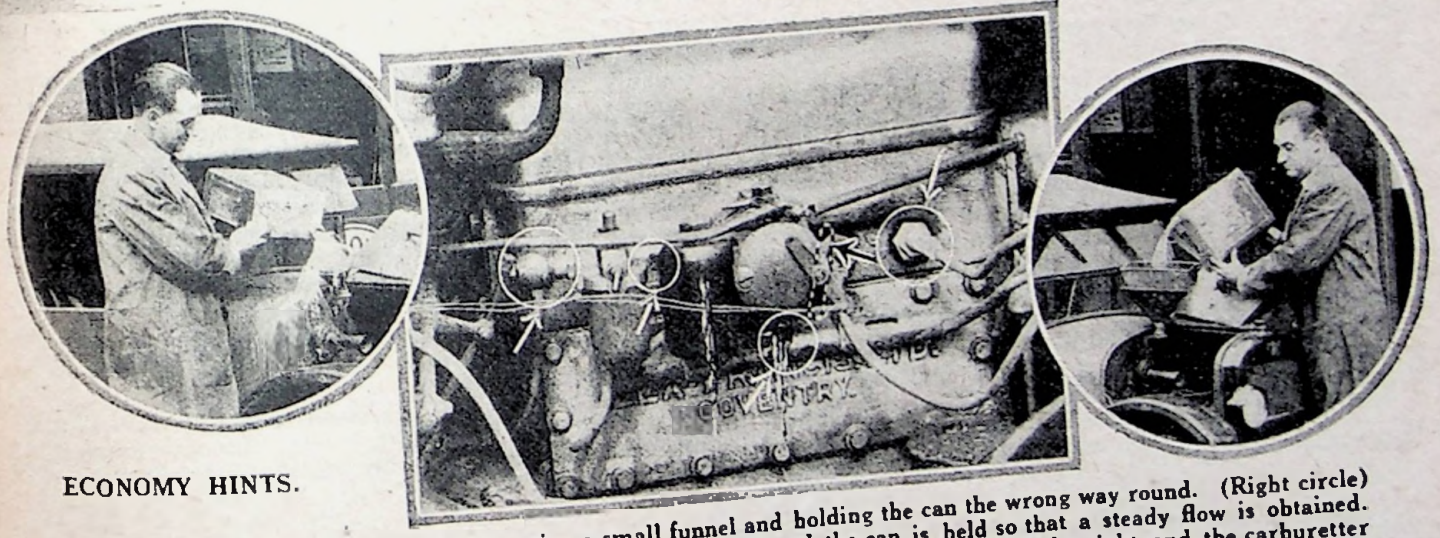
Let us suppose it is desired normally to drive a car at a speed corresponding to the point C on graph 3. The most economical arrangement would be to select an engine which would develop the horse-power shown to be necessary for this speed, and so gear it that the conditions were those corresponding to the point B in graph 2.

Although this degree of refinement is not possible for the majority of motorists, there is one outstanding



The relationship between road speed and horse-power is shown by this graph. For fuel economy the point C should correspond with the point B in the graph (2).

fact which it pays to bear in mind. With any particular car there is one speed at which petrol consumption is at a minimum, and at speeds either above or below this the m.p.g. are less. This ideal speed can be determined only by trial, and a certain amount of latitude is possible, for it will be noticed that the curve in graph 2 is fairly flat for some little distance on each side of the point B. It should not be overlooked that the speed scale in graph 2 is engine speed. Some



ECONOMY HINTS.

(Left circle) How petrol is wasted by using a small funnel and holding the can the wrong way round. (Right circle) How a tank should be filled. A large funnel is being used and the can is held so that a steady flow is obtained. (Centre) The arrows indicate points where fuel waste can occur. All unions should be tight and the carburetter must not flood. The strangler must be full open when running and the plugs must be in good condition with correctly set gaps.

sketch, which, incidentally, refers to the same engine as the first. It will be seen that there is again a critical combination of conditions; this is represented at B, and shows when the engine is most economical in fuel. It will usually be found that this point does not coincide with the conditions necessary for maximum power, which, it should be noted, in this case is obtained only by a relatively heavy consumption of petrol.

Turning to the car itself, except at low speeds a very large proportion of the energy absorbed by motion is used in overcoming the air resistance. When the speed exceeds 20 m.p.h. experiment has shown that the resistance rises very rapidly as the velocity increases. An examination of the graph 3 will indicate the relationship existing between road speed and the horse-power required to drive the car. It will be noted that at

drivers have an idea that the avoidance of using the lower gears, except in cases of dire necessity, contributes to petrol economy. This is fundamentally false.

Hanging on to top gear on an incline involves running the engine at low revs. under open throttle. Leaving out of the consideration the effects of such a load on big-ends and other parts, the engine is being run under conditions represented by the extremity of the graph 2, and a little thought should make it clear that a change down would give the engine the chance of running under far more economical conditions; although the revolutions increase the throttle is not open so wide, and probably, therefore, less petrol is used.

Again, there are drivers who imagine that a saving in petrol can be effected by weakening the mixture, this state being brought about by the use of a smaller main jet or a larger choke. It is certainly true that

economy can frequently be attained along these lines, but only when the mixture is already too rich. Petrol-air mixture of a definite strength gives the best results: weaker or richer than this causes a falling off of power. Generally speaking, a small main jet limits the maximum speed, while a larger choke—given a suitable jet—raises the maximum speed, but reduces the flexibility of the engine.

Other things being equal, a flexible engine can be obtained only by having a carburetter setting which gives a rich mixture at low throttle openings, and, although all carburetters have some means of compensating this as the engine revs. increase, none is perfect, and some form of mixture control is therefore an advantage. It is on this account that a suitably regulated extra-air inlet plays such an important part in petrol economy.

Another point which has a considerable bearing upon fuel consumption is the question of valve timing. If there is a considerable overlap between the opening of the inlet valves and the closing of the exhausts there is distinct risk of petrol wastage at certain engine speeds. Similarly, if the inlet valves close very late the rising pistons will tend to pump back some of the mixture through the carburetter—another cause of waste.

An increase in petrol consumption is also to be expected if the valve springs are weak enough to allow the valves to bounce, whilst, of course, pitted or warped seatings will also have an adverse effect upon the fuel bill.

So far as the ordinary owner-driver is concerned nothing can be done to alter the valve timing; and, indeed, it should not need altering on a fairly modern engine of reputable make. On old-pattern engines it may be found that the cams have worn so that the timing is no longer correct, and in this case a new camshaft should be fitted.

Those who have the necessary skill can make considerable variations to the valve timing of their engines by altering the shapes of the rocker heels so that the cams make contact on a different part of the curve. This is not a job which should be undertaken haphazard, however, and, in any case, new rockers should be on hand so that the original timing can be restored if necessary.

It must not be forgotten that binding brakes and under-inflated tyres will cause an increase in fuel consumption. These are matters which can easily be given attention; indeed, the tyre pressures should be checked weekly because, apart from the question of fuel economy, the life of a tyre depends largely upon its correct inflation, and it is just as important to save tyres as it is to save petrol.

DIPPING HEADLAMPS FOR AUSTINS.

THE practice of dipping one's headlights is now generally recognized to be better for preventing dazzle than blacking out entirely. Many owners of Austin Sevens have doubtless felt the need for some dipping device; they will be glad to know therefore that Bowden Wire, Ltd., of Victoria Road, Willesden Junction, London, N.W.10, have introduced a most satisfactory dipping headlamp control which can easily be fitted to standard-model Austin Sevens.

The fitment consists of a rocking bar supported in front of the radiator by two brackets which are bolted on to the lower ends of the wing stays. The extreme ends of the rocking bar carry supports on which are mounted the standard headlamps, removed from their usual brackets. The bar is "rocked" and the lamps thus dipped by means of a Bowden wire control and lever. The lever can be supplied for operation by either the right or left hand and can, if desired, be fixed to the facia board or the body side. In general, however, it will be found that the most convenient position is on the steering column, and this is the standard fitting.

With the lamps attached to the rocking bar the width of the car is not indicated, and in order to comply with the law it is necessary to fit small side lamps, either on the wings or on the brackets from which the headlamps have been removed. The brackets and rocking bar are arranged so that the headlamp bulbs are roughly 28 ins. from the ground.

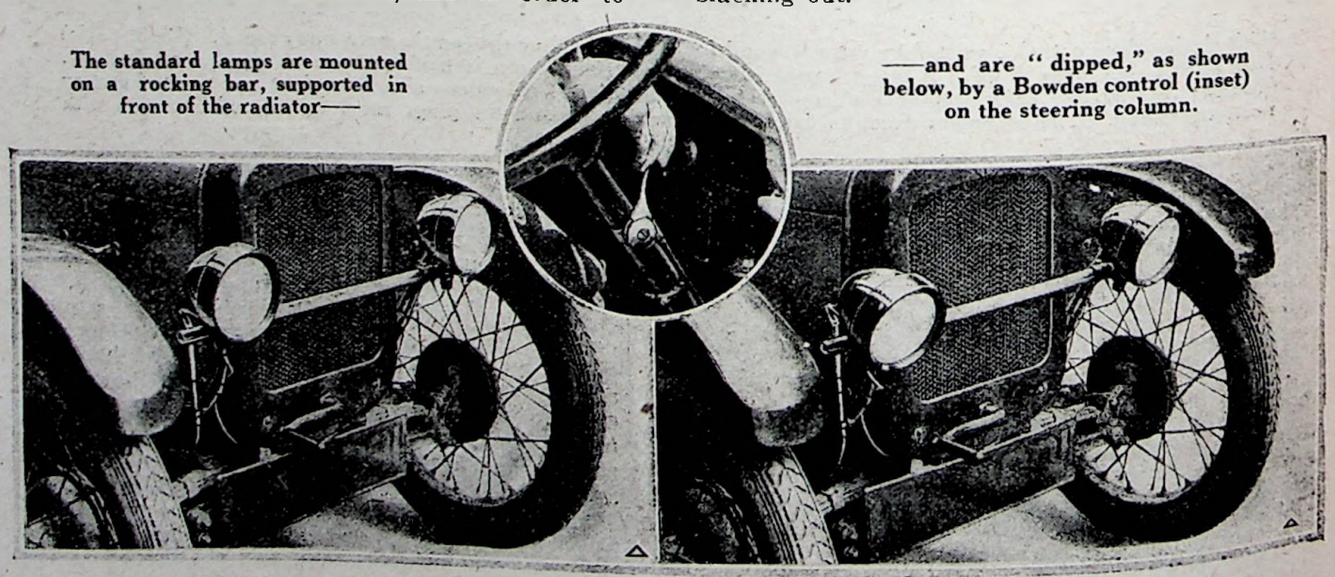
The plated rocking bar and new position of the lamps impart a quite pleasing appearance to the front of the car. The brackets and other fittings are soundly constructed and there is no tendency for the lamps to rattle or vibrate. Only a light touch on the Bowden lever is necessary to deflect the headlamp beams a considerable amount.

The price of the dipper, complete with brackets, rocking bar, Bowden wire and control, but not including the two extra side lamps, is £2 15s. Fitting is quite an easy matter, but if an Austin owner desires to have this carried out at the works of Bowden Wire, Ltd., a charge of approximately 11s. 6d. is made for the work involved and for the cost of the extra electric cable needed.

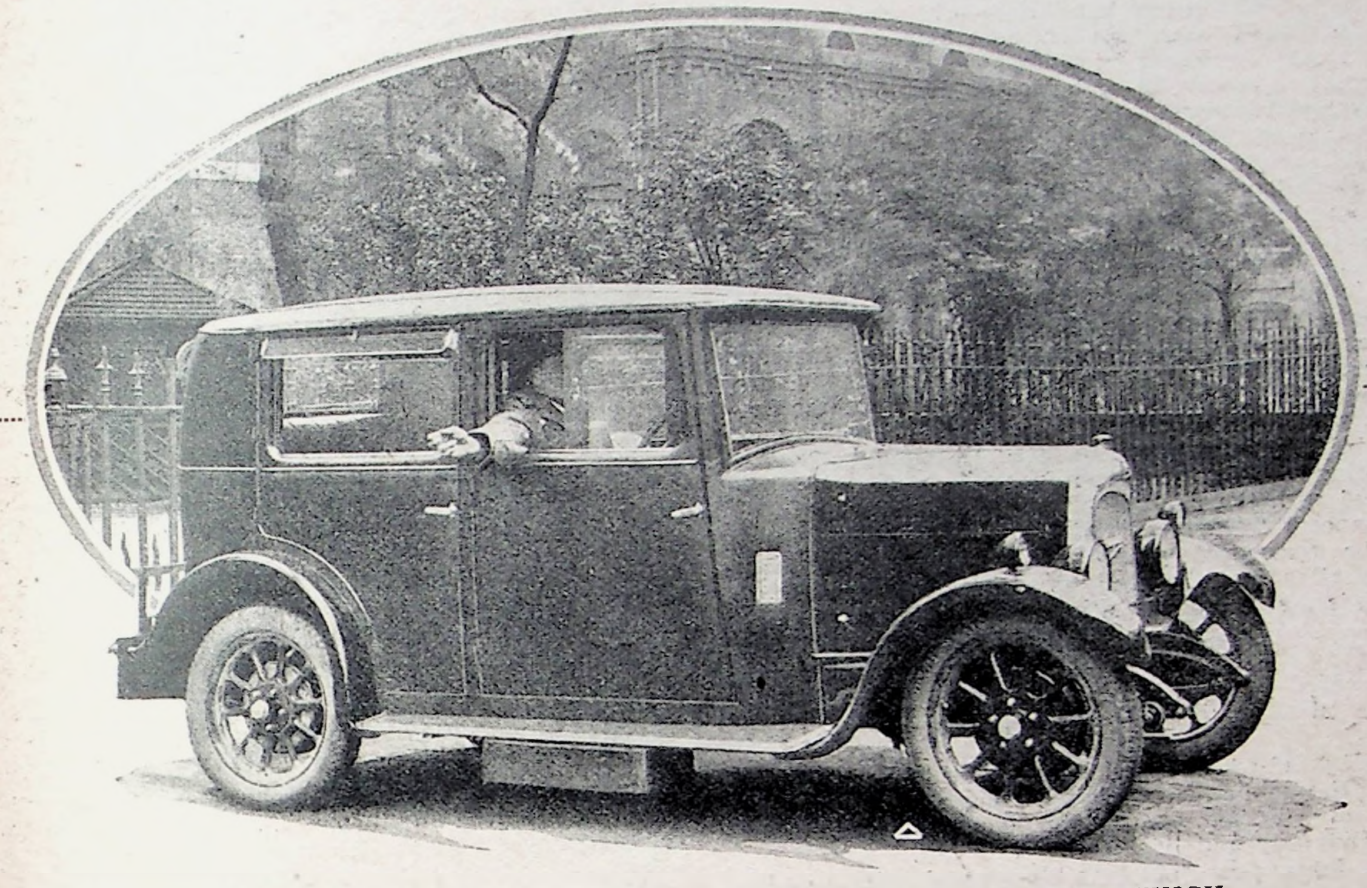
As the result of a thorough test of the dipping device we have no hesitation in recommending it to all Austin owners who favour "dipping" instead of "blacking out."

The standard lamps are mounted on a rocking bar, supported in front of the radiator——

——and are "dipped," as shown below, by a Bowden control (inset) on the steering column.



A NEW 9 H.P. HAMPTON FABRIC SALOON.



INTERESTING ADDITION TO THE HAMPTON RANGE—A CAR WHICH BOASTS OF AMPLE ACCOMMODATION AND NUMEROUS REFINEMENTS.

TO meet the demand for a light, economical but speedy semi-sports fabric saloon, Hampton Cars (London), Ltd., Dudbridge, Stroud, Gloucester, are marketing a new 9 h.p. model, priced £295. Outstanding characteristics are a 1,247 c.c. overhead-valve Meadows engine, a four-speed gearbox and a body which is noteworthy in that there is plenty of room in all directions; the tax, incidentally, is £10.

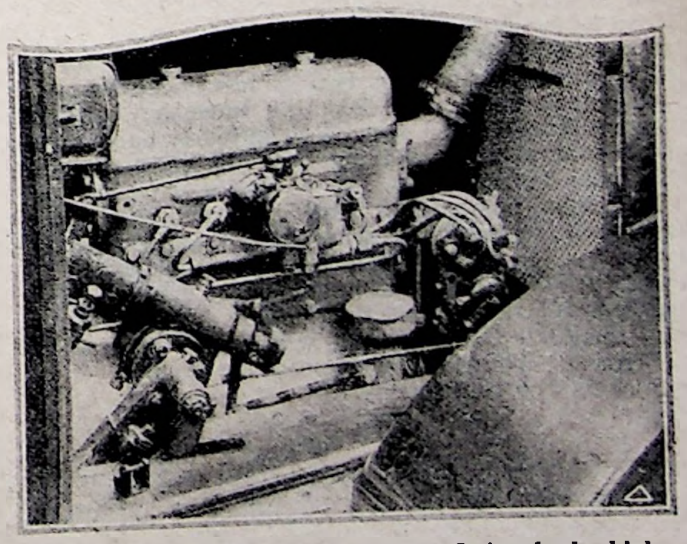
The specification is similar to that of the 9 h.p. two-seater, and in detail is as follows:—The engine—already familiar to readers of *The Light Car and Cyclecar*—is of the four-cylinder water-cooled type, with a 63 mm. bore and 100 mm. stroke. The head is, of course, detachable, the valves are operated by push-rods, and lubrication is by pump.

On the model which we inspected recently and in which we had a short run the carburetter was a Zenith and the magneto a B.T.H. To make the car suitable for colonial use a fan can be fitted quite easily, whilst the large-capacity radiator holds four gallons of water which circulates on the thermo-siphon principle. Lucas 12-volt lighting and starting equipment is standard.

The standard gear ratios are 4.5, 6.86, 10.5 and 16.68 to 1, right-hand control being employed, despite the fact that engine, clutch and gearbox are in unit construction. Especially interesting is the clutch; it is of the plate type and runs in oil, which is supplied direct from the engine sump. There are two driven and two driving plates, the action of the clutch being very smooth, yet positive. A tubular propeller shaft with a fabric joint at each end transmits the drive to the rear axle.

Nowadays bodywork and interior furnishing are important parts of the specification of a popular car, and an examination of this new Hampton saloon shows that its designers have not failed to realize this fact. Customers have a choice of colour, not only with regard to the fabric covering, but also concerning upholstery, which, incidentally, is of the best-quality leather.

The seats are of the pneumatic type and the front ones are, of course, instantly adjustable. Head-room



The off side of the Meadows engine. It is of the high-efficiency o.h.v. type and gives a very good performance.

and leg-room are just right, whilst to make the back seats still more comfortable there is a well for the feet of the occupants. The body is, of course, of the four-door type, the rear doors opening backwards and being cut away so as to clear the rear-wheel arches. All doors are wide, solid and "slammable."

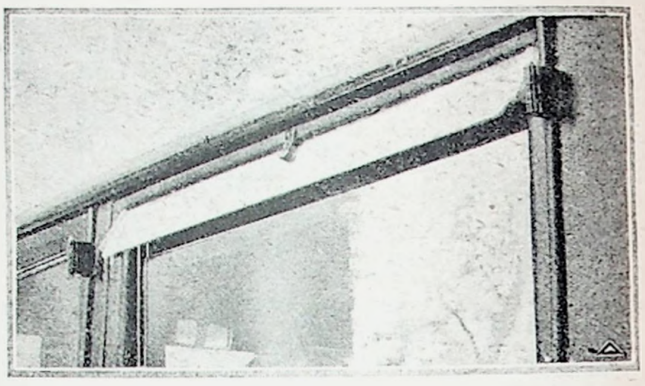
Other good features are the excellent amount of window space, including a large rear light, the single-

panel windscreen, hinged at the top but opening out to a nearly horizontal position, and the glass "weatherboards" to the rear side windows, which enable these windows to be lowered a few inches—and the interior of the car ventilated—without the possibility of rain driving in. The last named, we think, is a really first-class idea, and to Hampton's, we believe, goes the credit of being the first people to fit this type of ventilator on a light car.

A few general dimensions will give a good idea of the freedom which this attractive closed body offers:—Width of doors, 31½ ins.; height, 41 ins.; width of back cushion, 42 ins.; overall length of car, 11 ft. 11 ins.; width, 5 ft.; height, 5 ft. 2 ins. The equipment includes four-wheel brakes, luggage carrier, electric horn, automatic windscreen wiper driven from gearbox, clock, driving mirror, speedometer, roomy toolbox, Hartford shock absorbers all round, interior light, step light, Lucas dip-twist headlamp reflectors and ashtray. For an extra "fiver" customers can have wire wheels, and for an additional outlay of £15 15s. Triplex glass can be fitted all round.

During a short trial run in the car we were impressed with the absence of drumming and vibration, the general "nippiness" of the engine, which, aided by the four-speed gearbox, gives quite surprising acceleration, and the really good brakes, a feature of which is that the drums are 12 ins. in diameter.

The car retains the well-known Hampton radiator and is a convincing little job viewed from any aspect. It should have no difficulty in attracting an enthusi-



The glass "weatherboard" over the rear side windows of the Hampton is an excellent feature. The windows can be lowered, as shown, and the interior of the car still remain quite weatherproof.

astic band of followers, who will keep the production side of the Hampton works busy for many months to come.

IMPORTANT ALVIS AND HENLY DEVELOPMENTS.

THE front-wheel-driven Alvis made its official bow to the public last week following a gathering presided over by Mr. T. G. John, managing director of the Alvis Car and Engineering Co., Ltd.

Mr. John pointed out that front-wheel drive was by no means a new idea, no fewer than 150 patents having been registered in connection with it between 1895 and 1905. The idea again came into prominence a few years ago when front-wheel-driven cars attracted some attention in Germany and when a front-wheel-driven Alvis was built to take part in hill-climbs. It will be recalled that it made its first appearance at the last Kop event, but was unable to run owing to the racing classes being curtailed following a mishap.

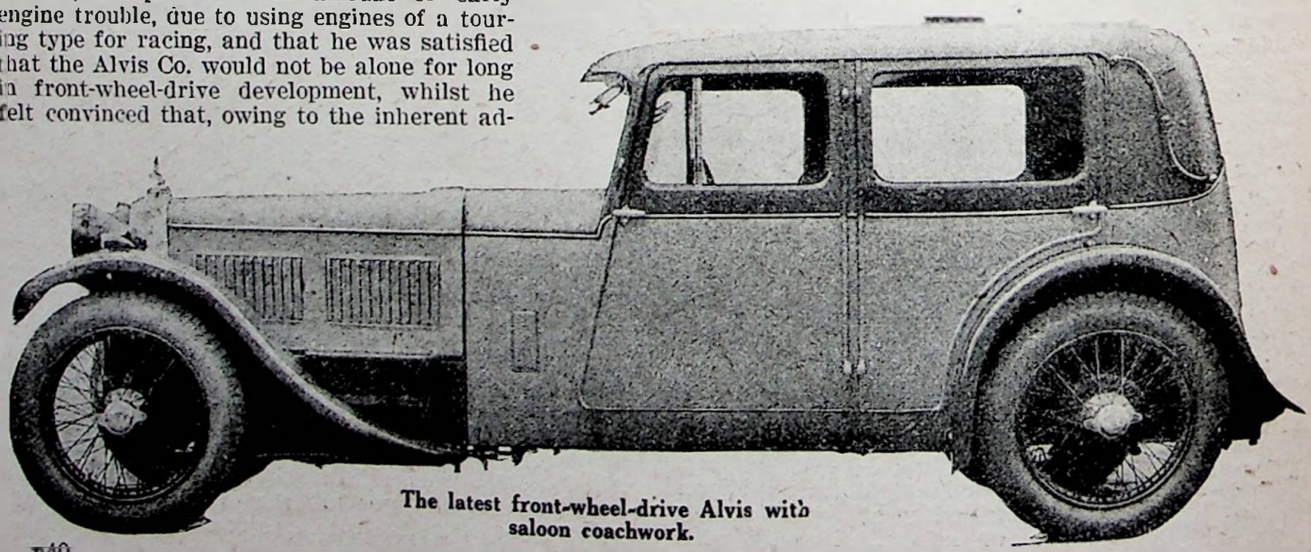
The following year at Shelsley Walsh this car came extraordinarily close to lowering the record for the hill. In the same year two front-wheel-drive Alvis models took part in the 200-Mile Race, but, although they had ample speed, they were seriously handicapped owing to the brakes having been designed for speed hill-climbs and sprints.

Mr. John pointed out that no troubles whatever had been experienced with the front-wheel-driven chassis, except a certain amount of early engine trouble, due to using engines of a touring type for racing, and that he was satisfied that the Alvis Co. would not be alone for long in front-wheel-drive development, whilst he felt convinced that, owing to the inherent advantages of the principle, front-wheel drive would figure before long in the specification of all successful racing cars built for lowering world's records.

The principle of driving the front wheels lends itself, in Mr. John's opinion, to cheap production, with the one reservation that certain important parts must embody the very finest materials and workmanship.

Mr. Frank Hough, joint managing director of Henlys, Ltd., described the front-wheel-driven Alvis as the best car he had ever handled, whilst Capt. Malcolm Campbell said that it more than came up to his expectations, that he thought it had an enormous future and that he had great confidence in it.

Later in the afternoon the front-wheel-driven car with a saloon body made its debut before an admiring audience at the new premises of Henlys, Ltd., which were declared open by Capt. Malcolm Campbell. The spacious and handsome showrooms occupy a commanding site on the corner of Great Portland Street and Euston Road, and are capable of accommodating several dozen cars arranged so that they can be conveniently viewed from every angle. Henlys, Ltd., now have eight depots, the latest being the largest motor showrooms in Europe.



The latest front-wheel-drive Alvis with saloon coachwork.

B40

THE WOLF

A STORY WITH A MOTORING "FLAVOUR" INTO WHICH THE AUTHOR HAS MANAGED TO CROWD A WEALTH OF INCIDENT.

FIVE minutes had elapsed since the strains of the National Anthem had died away, but the foyer of the Grand Broadway Theatre—that architectural triumph which stands on the site of what was once the Foundling Hospital, off Gray's Inn Road—was still thronged with a motley crowd of cloaked or overcoated theatregoers who were waiting patiently either for their own cars or for the ubiquitous but, on this occasion, almost unprocurable taxi. For it was what Jack Fulton had described as a "dirty night."

Jean Fulton, her wrap drawn tightly round her, watched them from a secluded corner which commanded a view of the foyer clock, at which she glanced anxiously from time to time. Her husband had hurried away directly the curtain fell with the admonition, "Be on the look-out in five minutes; you know what it means getting the car after a show."

With a last fleeting glance at the minute hand Jean slid towards the door, and at the same minute an excited Duchess burst from the cloakroom and, in an hysterical voice which could be heard all over the gradually emptying foyer, called loudly for the manager. The crowd turned and gazed curiously at the Duchess, still uncloaked, but there was sterner work on foot and the audience continued to file out leaving the distracted lady to her fate—whatever the cause.

* * * *

The Duchess was still arguing the point when Jack Fulton, a tall, broad-shouldered and typically English young man of some thirty summers, strode hurriedly into the now almost empty foyer from the street, cast a quick glance round and then buttonholed the commissionaire who was in the act of stifling a yawn, his thoughts on home and bed.

An eavesdropper would have caught the following snatches of excited conversation which then took place at one and the same time between the young man and the commissionaire, and the Duchess and the manager.

"... promised to wait until I came back ... must be here somewhere ... only went for the car ... tall ... fair ... silver tissue wrap with cream fox collar and cuffs. ..."

"Absolutely vanished, my good sir, not a trace of it ... here's my ticket ... worth 100 guineas ... no, *not* a sable coat, a silver tissue wrap with cream fox collar and cuffs. ..."

Then there was utter silence as the Duchess and the typically English young man swung round regarding each other fixedly. As though in a trance they both repeated the words "cream fox collar and cuffs" and, striding away rapidly and with one accord from their late talking partners, began to cross-question one another in a way which left the manager and the commissionaire speechlessly astonished.

"Vanished, you say!" piped the Duchess, adding shrilly "and so has my wrap ... 100 guineas—heaven knows what in francs—from Raychiere, of the Rivoli ... and wearing *cream fox*, too! What a coincidence, what a *strange* coincidence! ... but something's got to be done ... young women don't vanish with other women's wraps without *someone* wanting to get to the bottom of it!".

"If, madam, you infer that my wife ..." angrily.

"I infer nothing; I only say it's strange. Here, manager, ring up the police."

"Better still," said the young man grimly, "let's go to the police station; my car is outside!" The Duchess hesitated, but the manager politely endorsed the wisdom of such a course, and the trio strode through the door, the Duchess shivering as she beheld the rain-lashed street.

Fulton emerged behind the Duchess and glanced up and down.

"Well I'm hanged!" he ejaculated, "this beats everything ... somebody's pinched the car!"

* * * *

The three alighted from a taxi and hurried into the Inspector's office. The Inspector listened patiently whilst the Duchess, slightly hysterical, and Fulton, angry, but obviously scared, told their stories.

"Now, let's get it right," he said. "You," pointing to the quivering Duchess, "have lost a 100-guinea wrap and you"—with a large thumb in the direction of the unfortunate Jack—"have lost your wife ..."

"Who was wearing a cream fox wrap!" This from the Duchess in a kind of snort.

"And you," continued the Inspector imperturbably, glancing at the manager of the Grand Broadway, "are the gentleman who naturally wants to clear himself of having anything to do with the loss of both bits of property?" The manager nodded and the Inspector turned once again to Jack.

"Now, is there any reason why your wife should run away and leave you, and when did she buy the wrap?" he asked in a single breath.

"No reason at all; we are devoted to each other. I bought her the wrap two months ago—when we were married." Jack coloured slightly and the Duchess sniffed.

The Inspector tapped his desk with the end of his pen so as to give due weight to his next pronouncement.

"Hasn't it occurred to you, madam, that there might be another wrap exactly like yours?" he asked triumphantly. The Duchess was nonplussed.

"A perfectly obvious conclusion," said Jack, testily; "there cannot be any possible connection between the loss of this lady's wrap and the disappearance of my wife."

A sergeant who had been listening respectfully from a distance now approached the Inspector and whispered in his ear. The result was electrical and a brawny fist came down on the Inspector's desk with a thud which set the inkpot rattling. The Duchess jumped.

"G'lord, Stephens, fancy me forgetting. Why, of course it's The Wolf, and to think she's slipped through our fingers. Here . . ." He picked up the telephone and issued a whole series of peremptory orders. Then—

"It's all right," he said, "we reckon we know where the wrap's gone, but the missing lady is another question."

"*Where* has it gone?" plied the Duchess.

"The Wolf——" he hesitated, "——p'raps I'd better say that a young lady who makes a business of lifting expensive things like wraps and whom we call 'The Wolf,' because—begging your pardon, lady—she's always going off in sheep's clothing, is the person we suspect. You see, it's just her line."

"Oh!" exclaimed the Duchess with a curious look in Jack's direction, "*The Wolf!*"

With an effort Jack Fulton restrained himself.

"Look here, Inspector . . ." The telephone bell tinkled and the Inspector snatched the receiver from its hook.

"Yes . . . yes . . . what, *another* at that corner . . . anything unusual about it? . . . lady unconscious . . . hi! wait a minute. . . . He turned to Jack. . . . What make of car was yours?" he asked curiously.

"10 h.p. Sports Shifter." The Inspector spoke again over the 'phone.

"10 h.p. Sports Shifter . . . is that the make of the car? . . . yes . . . no, I *haven't* finished . . . what sort of a wrap is the lady wearing? . . . yes . . . yes . . . thanks, that all."

In a more respectful and sympathetic tone he addressed Jack: "Look's as though your wife's been mixed up in a bit of a smash just off Russell Square . . ." Jack was half-way to the door. "Go with him, Stephens," he added sharply.

The sergeant followed and the pair made their way rapidly to the scene of the accident. The rain had ceased and a watery moon emerged momentarily from behind a cloud only to obscure itself again hastily as though fearing to intrude in such a poignant mix-up of mice and men.

Despite the hour there was a small crowd and as Jack—the sweat standing out in great beads on his forehead—and his companion ran towards the wrecked car, the gong of the ambulance sounded and the vehicle glided up.

"Stand back!" growled the sergeant. He pushed his way through the crowd, Jack close on his heels. The injured woman had been made as comfortable as possible in the car itself. She was stunned and there was a tiny trickle of blood running down her ashen cheek, but otherwise she appeared to be not very badly hurt. Round the burly form of the sergeant Jack caught a glimpse of a cream fox cuff.

"Jean, my wife!" he groaned. The sergeant shot a keen look at him over his shoulder—a look of sudden suspicion.

"*We* call her 'The Wolf,'" he snapped.

* * * *

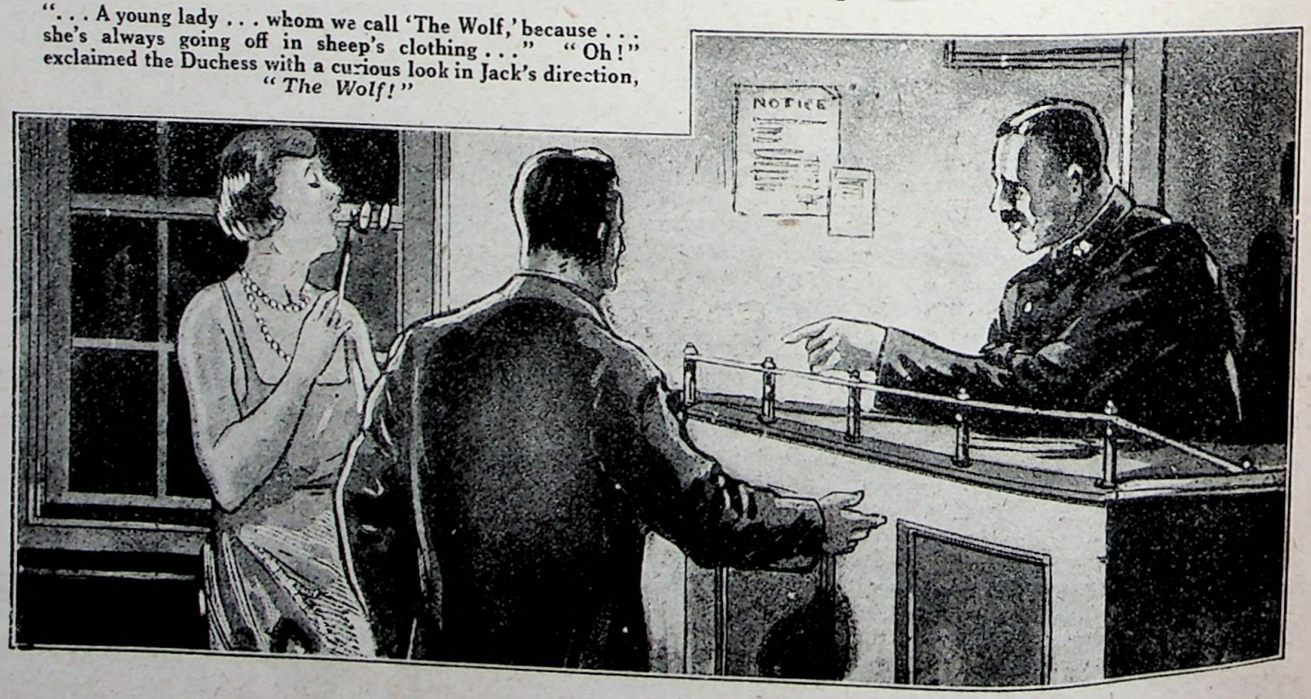
In the Inspector's office the Duchess was still deeply lamenting.

"It's not so much the monetary value," she wailed, adding speculatively, "of course, it's insured," then went on "but it's the *intrinsic* value. You see I bought it in Paris only yesterday on my way home from 'Monte.'"

"You can's stop here all night, madam," remarked the Inspector sententiously. "I've wrote down all the particulars and we'll do all we can, but if it's The Wolf . . ." The 'phone tinkled.

"Hullo . . . yes, speaking . . . *eh?* It's *The Wolf*, is it, and you've got her . . . fine . . . what . . . knocked

". . . A young lady . . . whom we call 'The Wolf,' because . . . she's always going off in sheep's clothing . . ." "Oh!" exclaimed the Duchess with a curious look in Jack's direction, "*The Wolf!*"



about? . . . Oh, she's come round, has she . . . good . . . yes, bring her along and hurry up; there's a lady here *wants* that wrap . . . g'bye." He replaced the receiver.

"You needn't go," he said to the Duchess. "We've got The Wolf and The Wolf's got your cloak . . . you can keep one and we'll keep the other." He chuckled. "Ha'-past twelve!" He began to make notes.

Ten minutes elapsed, during which the Duchess, becoming increasingly conscious of the incongruity of evening dress worn in such surroundings, attempted to shield herself as much as possible from the inquisitive Inspector. She might have saved herself the trouble; the Inspector was dreaming of the time when he would be one of the Big Five. He sighed deeply, and the Duchess, taking it as a direct manifestation of his feelings concerning herself, showed signs of panic. The loss of the wrap assumed less significant proportions; she even found herself thinking with concern of the fate of the unfortunate Mrs. Fulton, and began to pray fervently that the missing lady's distracted husband would soon return. Poor fellow, how disappointed he must have been when he found it was The Wolf and not his wife!

The swing doors opened. There entered two police constables, who between them were supporting a woman. Her wrap—silver tissue with cream fox collar and cuffs—was torn, and the right side of her face bore signs of a recent blow. She looked round with ill-concealed eagerness, and hope died in her eyes

". . . drove off and circled the square two or three times. . . . Then came the smash—her eyes on the sidewalk instead of the road ahead."

as her gaze fastened on the Inspector. The Duchess had drawn back into the shadow, but as momentarily the woman's face was turned towards her the old lady suddenly became rigid. Where had she seen the girl before?

"Phœbe Richardson—'The Wolf,'" announced one of the constables. He rolled it off his tongue with unction.

"No, no!" The cry was wrung from the girl's lips. The Inspector was eyeing her, slightly puzzled.

"You two men ever seen The Wolf close to?"

"No, sir; photograph's good enough," answered one of the men.

"I've never seen her, either—Stephens is the only one who has—but it's my belief that this isn't Phœbe Richardson, but a lady who has been missing since 11.5 p.m. Your name, madam?"

With suddenly awakened hope the woman answered, "*Jean Fulton.*" The Duchess was electrified. She now stepped forward, and as the Inspector said sharply, "Release her," she caught the almost fainting girl in her arms. There were things she did not understand.

"Jean Fulton! *Jean Fulton!*" she exclaimed. "Why, when I saw you last, two years ago, you were Jean Chadwick."

Jean murmured "the Duchess!" in a very faint voice, and then slid into temporary oblivion. The Duchess examined her wrap. "How odd!" she ruminated, and fell to restoring the girl to consciousness by approved methods.

"Why didn't you bring her husband along, and where's Stephens?" queried the Inspector.

The constables were nonplussed.

"If she isn't The Wolf, we don't know who her husband is, and we haven't seen Stephens since last night," said the spokesman.

The Inspector kicked his chair back. "Where the blazes *did* you find Jean Fulton?" he bellowed.

"At 77, Little George Street. Watching the house as instructed, Ray Rekker drove up with the girl. As she got out she gave a bit of a yell. Rekker clapped his hand over her mouth, but she struggled, so he hit her. Then we ran for him and he bolted. Johnson went in pursuit, but he gave him the slip. The car was full of stuff, and we thought it worth while bringing her along here on the strength of it."

"What make was the car?"

"10 horse Sports Shifter."

"Now I've got it," said the Inspector, triumphantly.

The efforts of the Duchess proved successful and Jean gratefully sipped the water held to her lips.

The Inspector looked at her kindly. "If I'm right," he said, "just nod your head. When you left the door of the Grand Broadway it was raining hard, so you pulled your collar right up till you could only just see, ran for the car, whisked open the door, settled yourself down and said nothing. You probably closed your eyes, and didn't discover you'd got into the wrong car until it stopped. Then you found out your mistake—and so did Rekker, eh?"

Jean nodded.

* * * *

Ten minutes later the Duchess stood arrayed in her own cloak, and Jean was in the arms of her husband. The Wolf had duly been brought in, charged and disposed of; she also had been escorted—and supported by two constables. How she came to drive off in Fulton's car was easily explained. She, too, had agreed to meet the driver of her car, Rekker, outside the theatre at a certain time. When she emerged the car was not in sight, so, in semi-panic, she had commenced to walk away from the building hoping that Rekker would be there when she returned in a few minutes. He had driven up when she was no more than two hundred yards away, and Jean had walked into the lion's—passenger seat.

When The Wolf returned, the car—Fulton's, which she mistook for Rekker's—was there, but there was no sign of Rekker. She came to the conclusion that Rekker had been "nabbed," and, seeing her only chance of salvation, entered Fulton's car, drove off and circled the square two or three times in the forlorn hope of seeing signs of her confederate. Then came the smash—her eyes on the sidewalk instead of the road ahead.

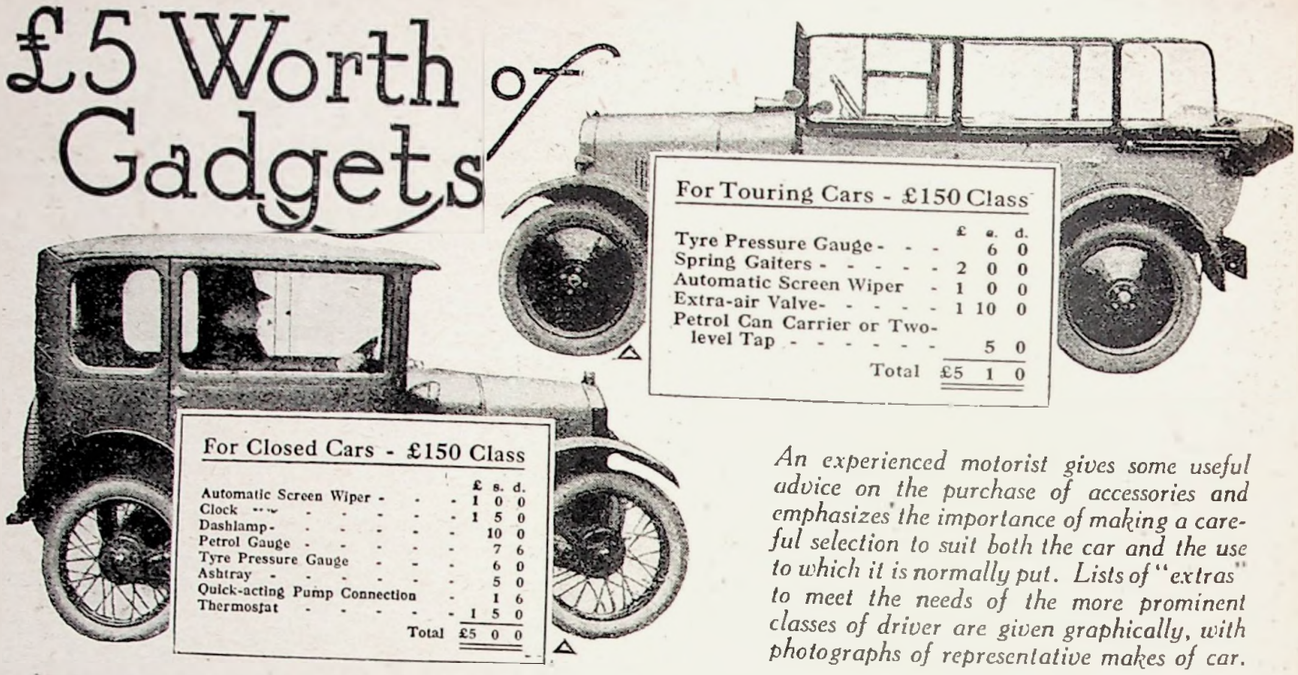
* * * *

The Duchess rang the bell and a velvet-footed butler glided across the floor and deposited the tea-tray on the table by her side.

"Naturally, I did not hear of your wedding, Jean," she was saying, "and I was too far off to receive an invitation. Nevertheless, I claim the privilege of being allowed to make you a suitable wedding gift. Now it seems to me that quite enough bother has been caused by two wraps that are so much alike—besides yours is ruined—and so"—the eyes of the Duchess twinkled—"you and Jack had better meet me at Rovell's tomorrow, at twelve o'clock. Of course, it *may* be fox——"

"But not Wolf, please," murmured Jack Fulton.

£5 Worth of Gadgets



For Touring Cars - £150 Class

	£	s.	d.
Tyre Pressure Gauge		6	0
Spring Gaiters	2	0	0
Automatic Screen Wiper	1	0	0
Extra-air Valve	1	10	0
Petrol Can Carrier or Two-level Tap		5	0
Total	£5	1	0

For Closed Cars - £150 Class

	£	s.	d.
Automatic Screen Wiper	1	0	0
Clock	1	5	0
Dashlamp		10	0
Petrol Gauge		7	6
Tyre Pressure Gauge		6	0
Ashtray		5	0
Quick-acting Pump Connection		1	6
Thermostat	1	5	0
Total	£5	0	0

An experienced motorist gives some useful advice on the purchase of accessories and emphasizes the importance of making a careful selection to suit both the car and the use to which it is normally put. Lists of "extras" to meet the needs of the more prominent classes of driver are given graphically, with photographs of representative makes of car.

"IF you were given £5 to spend on gadgets for your new bus, what would you buy?" The writer has put this question to quite a number of just-taken-delivery-of-my-new-car motorists, and many an interesting discussion has arisen thereby. The answers have proved as entertaining and as varied as a batch of schoolboy essays on "My Ambition" or some subject of a similar kind.

Just as some youngsters wish to be a "bit of everything" when they leave school, so do some motorists favour a large number of inexpensive accessories which will make a proud display when fitted to their cars. At the other end of the scale we have the driver who takes no delight in fal-lals, but prefers one, or perhaps two, fairly expensive fittings.

To say which course is the better is quite impossible, because so much depends on the tastes and requirements of the individual and—not the least important point—the car which he owns.

Let us take a few typical cases and make up a suitable £5 batch of accessories to suit each. In these days of generous equipment it may be taken for granted that the car has been supplied as standard with a speedometer, horn, licence holder, mirror and a full kit of tools, including jack and pump, so that these items need not be considered.

For the Smallest Cars.

If we begin at the bottom of the scale, we have to deal with the £150 touring car so popular with the middle-class family man, who uses it almost entirely for pleasure purposes. How shall he spend his "fiver"? To begin with, he might well lay out five or six shillings on a good tyre pressure gauge, for its use will probably save him more than this sum in the first year. It is well known that tyres which are too "flabby" quickly wear, whilst, apart from the question of comfort, too great a pressure subjects the whole car to excessive vibration. The correct pressure represents the best compromise and can be obtained only by the use of an accurate gauge.

In all probability spring gaiters will not be fitted, and if this is so, a sum of about £2 might well be expended on the purchase of a good set. Numerous types are available, and those intended for oil are perhaps to be preferred, as grease has a tendency to become lumpy, so leaving some portions of the leaves unlubricated.

A car of the type under consideration does not, as a rule, boast of an automatic screen wiper, and no one who has once experienced the convenience of these fittings would put up with a car which had no wiper at all, or only a hand one. We might, therefore, lay out a further £1, for which sum a reliable suction-operated wiper can be purchased. If a hand wiper is supplied with the car, it need not be scrapped, but can be transferred to the passenger's side.

We are now left with 34s., and as petrol economy is of primary importance in these days, the majority of it might go to the purchase of an extra-air valve—a fitting which, with proper use, not only improves petrol consumption, but also increases the braking effect of the engine and prevents oiled plugs when steep hills are being descended.

Avoiding an Empty Petrol Tank.

To run out of petrol "far from the madding crowd" is, to say the least of it, inconvenient, and a two-level tap or a carrier for a spare can forms a good way of using the balance. Our list is, therefore, as follows:—Tyre pressure gauge, spring gaiters, automatic screen wiper, extra-air valve and petrol can carrier or two-level tap.

For average needs this would form a very good £5 worth, but there are, of course, numerous other accessories which in certain cases would prove more suitable than those selected. A fast driver, for instance, would probably find shock absorbers essential if his car did not hold the road well, whilst for night drivers a facia-board lamp and combined inspection and spot-lamp might prove of more use than some of the items set out. Again, a man who wished to undertake long tours with a full complement of passengers would need a luggage grid, and this would cost in the neighbourhood of 35s.

A Business Man's Requirements.

For a business man who possessed a saloon in the same class the selection might be quite different; in this case the purchase of a number of more or less inexpensive accessories which were designed to add to the convenience of his car would probably be more suitable, and the following is suggested:—Automatic screen wiper (£1), clock (£1 5s.), dashlamp (10s.), petrol gauge (7s. 6d.), tyre pressure gauge (6s.), ash-tray (5s.), quick-acting pump connection (1s. 6d.) and thermostat (£1 5s.).

A thermostat has been included because a business man, as a rule, makes a number of short runs punctuated by comparatively long stops, and in the normal

way this means that the majority of his mileage is covered with a cold engine. This, of course, makes driving unpleasant and, moreover, is not conducive to petrol economy. A thermostat which restricts the circulation until the water in the cylinder jackets has reached a predetermined temperature will, obviously, go a long way towards improving matters.

A petrol gauge has been favoured in place of a two-level tap or spare can, because in towns, at any rate, garages are not so very far apart, and it is more convenient to glance at the gauge and thus see when to fill up than actually to risk running out and being forced to replenish from a can. The fact that—at least, to business men—time is money has also been borne in mind when selecting a quick-acting pump connection to complete the list.

Going a little higher up the scale, we come to cars in the £200 class, and here conditions are slightly different, because the standard equipment is usually more comprehensive and, as a rule, includes shock absorbers, spring gaiters, facia board lamp and, in all probability, an automatic screen wiper. This being so, the owner can, obviously, select accessories which are, perhaps, more in the nature of luxuries than actual necessaries, but the following selection does not include any gadgets which are not of genuine utility. Here are the items:—Radiator thermometer (£1 1s.), tyre pressure gauge (6s.), luggage grid (£1 15s.), stepmats (one pair) (15s.), aluminium number plates (15s.) and petrol filter (7s. 6d.).

Alternative Accessories.

An extra air valve, naturally, might well be included, and if the owner decided on this, stepmats and aluminium number plates could, of course, be omitted. Then, again, there is the question of spare petrol, but this has been dismissed because the majority of cars in the £200 class have a two-level tap.

There are, of course, numerous other substitutes which might well suit individual tastes, and it is as well to point out quite clearly here that these lists must not necessarily be taken as showing the best way to spend £5 in all cases. Obviously, different cars and different owners have varying requirements, and the lists are prepared with an eye to the needs of the average driver. In the last case, for instance, a man who never embarked on long tours, but who covered considerable distances after dark, would find dipping reflectors far more useful than a luggage grid.

Turning once again to the driver who uses a closed car largely for business purposes, we must draw up a suitable selection for the owner of a £200-£250 saloon. His needs are largely the same as those of the £150 closed car, with the exception that an automatic screen wiper, clock, dashlamp and, probably, a petrol gauge will almost certainly form part of the standard equipment of his car.

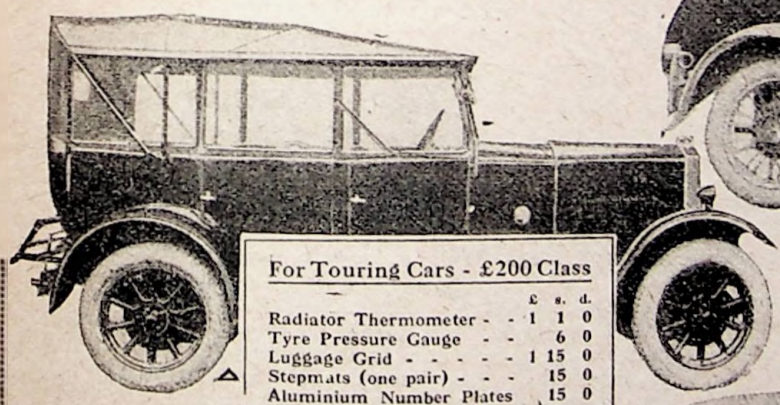
In his case, therefore, the following accessories would prove useful:—Thermostat (£1 5s.), tyre pressure gauge (6s.), ashtray (7s. 6d.), rear bumpers (£2 7s. 6d.) and stop signal (14s.).

The Sports Car.

What of the sports car owner? Obviously, his ideas will be entirely different to those of a touring car driver, and we suggest that he might well begin his list with a gradient meter. This device, costing about £2, not only adds great interest to a run in difficult country but also gives information regarding the performance of a car. Sparking plugs often give more trouble in a "hot-stuff" engine, and a carrier which will accommodate a set of plugs and can be screwed to the engine-side of the dash is obviously a good investment. Similarly, a plug tester of the type which employs a small glass tube filled with neon gas is a useful adjunct.

A radiator thermometer is very desirable, and one of the dial type which fits to the facia board and shows the actual temperature in degrees is well in keeping with the general characteristics of a sports car. The price of a thermometer of this type is about 30s., leaving us with a further 25s. or so to spend, and a spotlight might well conclude the list.

There are, of course, many really good accessories which have not been mentioned so far, and amongst these may be named air cleaners, cigar lighters, fire extinguishers, hydraulic jacks, spare bulb carriers, and so on. It must not be forgotten, too, that in these days, when large numbers of cars of the same make are on the road, accessory houses have produced a number of special fittings designed for one particular type of car. In most cases these fill a much-felt want and are well worth the sum charged for them.

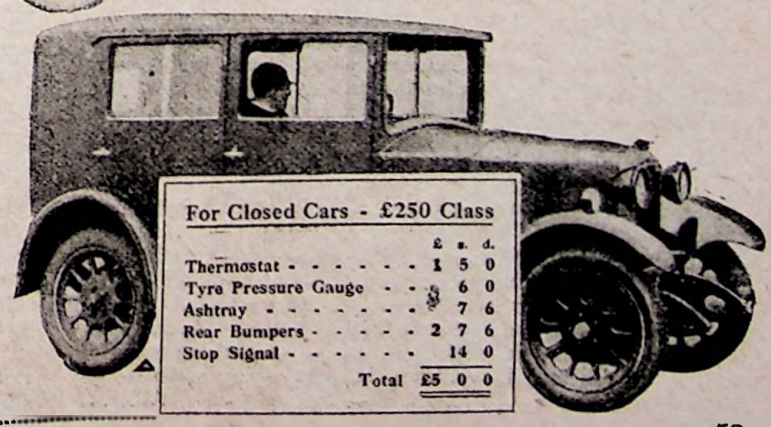


For Touring Cars - £200 Class

	£	s.	d.
Radiator Thermometer	1	1	0
Tyre Pressure Gauge		6	0
Luggage Grid	1	15	0
Stepmats (one pair)		15	0
Aluminium Number Plates		15	0
Petrol Filter		7	6
Total	£4	19	6

For the Sports Car.

	£	s.	d.
Gradient Meter	2	0	0
Sparking Plug Holder		3	0
Sparking Plug Tester		2	0
Radiator Thermometer (facia-board fitting)	1	10	0
Spotlight	1	5	0
Total	£5	0	0



For Closed Cars - £250 Class

	£	s.	d.
Thermostat	1	5	0
Tyre Pressure Gauge		6	0
Ashtray		7	6
Rear Bumpers	2	7	6
Stop Signal		14	0
Total	£5	0	0

The three classes of car represented here are very popular and the accessories recommended in each case should suit average drivers. In the list for the sports car a tyre pressure gauge might well be included in addition to the items given or substituted for the sparking-plug holder and tester.

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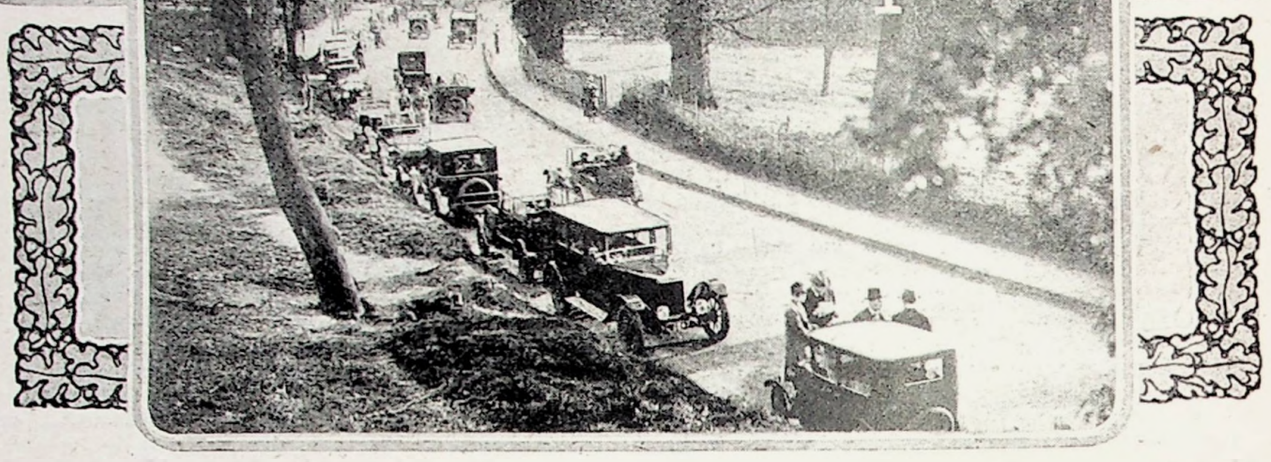
Our Readers' Opinions



We welcome letters for publication in these columns, but take no responsibility for the opinions expressed. No anonymous communications will be accepted, but writers may use a nom de plume. To ensure publication in the next issue letters should be addressed to the Editor, "The Light Car and Cyclecar," 5-15, Rosebery Avenue, London, E.C.1, and should reach us on Monday. We reserve the right to make any alterations or deletions which we deem necessary. Please write only on one side of the paper and leave a wide margin.

SMARTENING UP SECOND-HAND MODELS.

Interesting Hints and Queries on Renovating Old Cars.

Fitting Fabric.

Your recent article entitled "Covering a Second-hand Car with Fabric" certainly was very interesting, and I feel prompted to adopt the methods described when attempting to cover my old two-seater body. There is one point, however, about which I am by no means clear. How is the fabric cut in order that it shall conform with the rather sharp curves where the flat back of the car joins the main panels on each side? My particular body appears to be, if I may use the expression, "a mass of curves" at these points. It seems to me, therefore, that there would be a very big chance of rucking up the fabric, so that the resulting job would be an eyesore. I might mention that there is no beading on these curves which might be used to cover the joins in the fabric.

Possible Troubles.

When I come to think of it, I cannot recall having seen a normal type of two-seater body covered with fabric. In all probability it is because this material cannot be fitted round parts of a body which curve simultaneously in two directions.

V. M. RACINE.

Why not Aluminium?

I have had experience with practically all types of coach-work finish, and I have no hesitation in saying that plain aluminium is by far the best. The obvious reason is that there is no superficial covering of any kind which will show the effects of wear, and that, even after several seasons' running, elbow grease and a suitable polish will make an aluminium body look like new. No other kind of finish compares with it on these grounds. Ordinary varnish, as everybody knows, lasts about three months, cellulose is liable to flake off at the edges of wings and around beadings, whilst several 12-months-old fabric bodies I have seen recently are already beginning to look shabby.

A Lasting Finish.

Aluminium has, of course, been almost solely identified with cars of sporting type, but I see no reason why it should not come into fashion for all touring cars. It may be argued that a body of this kind is rather "flashy," but the same can be said with justification concerning some of the colour schemes in cellulose lacquer which one sees on the roads to-day.

A.L.I.

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Retouching Wing Tips.

I wonder if anyone can recommend a satisfactory but not too difficult way of retouching wing tips when the paint has flaked off and the metal becomes rusty? I have tried various enamels and cellulose lacquers, and in each case have scraped the rust off so far as possible, but after a month or two the rust has always crept through once more. It is a day's work to remove every trace of rust if the wings have flaked at all badly, and I for one cannot afford to spend so long on the job. Perhaps some of your readers have found a simple way of getting rid of rust before painting. If so it would be interesting to hear of it.

Difficulty of Removing Rust.

C. PARKER.

Making Floor Mats.

The article which you published last week under the title of "Covering a Second-hand Car with Fabric" will, I feel sure, be very much appreciated by a large section of your readers. It is not everyone who is fortunate enough to be able to buy a new car every two years or so, and to those who have to be content with a second-hand car any easy way of smartening up its appearance is of great importance. Mats make quite a big difference to the interior, but quite a number of the cheaper types of light car are fitted only with oilcloth. This looks very bare, but to anyone who cares to take a little trouble mats are quite easy and cheap to make.

Two for Six Shillings.

A few weeks ago I decided to make a pair for my 8 h.p. four-seater, so I went along to a furniture dealer and inspected some lengths of hair carpet; having the car outside at the time, I was able to try the more promising ones to see which would entail the least waste in cutting, and I soon found a suitable one at 5s. 6d.

It was a simple matter to cut out the mats—I took the precaution of cutting out a paper pattern for the front one—and having done so I sought the aid of my wife to bind the edges. For this we used a length of webbing about 2 ins. wide which we happened to have by us, but which I do not suppose would have cost more than a few pence. The result is most pleasing and adds pounds to the appearance of the car.

G. A. HARRIS.

OUR READERS' OPINIONS (contd.).

Very Sporting Action in Endurance Race.

I wish to express my appreciation and thanks for the extremely sporting action of the Alvis Co. and Major Harvey during last Saturday's Six-hour Race at Brooklands. I had the misfortune to break a contact-breaker arm on my magneto and I had no spare available. Major Harvey, seeing my difficulty, at once offered me a spare that he had in the pit. To appreciate the fine sportsmanship of this action it must be remembered that, at the time, my car was a serious rival to the Alvis cars in the same class.

From Capt. A. Frazer Nash.

It is actions such as these that have kept British motor racing up to such a high standard of sportsmanship, and I am sure you will allow me to express my appreciation of this action in your columns. A. Frazer Nash.

Motor Taxation Again.

I think fewer of us would object to the new petrol tax if we could feel that the Government had acted and/or intended to act honestly in respect of the present horse-power tax, and if it would say to what use the present amount accumulated in the Road Fund and the further sums which will still be poured into it will be put. But the Government has made it pretty clear that it either cannot or will not use this money for the purpose for which the tax was originally imposed. That "cannot" is the reason seems hardly likely when one sees the disgraceful state of the roads in the neighbourhood of such places as Caterham, Godstone, Kingston, Streatham and many others. So we can only assume that it is a case of "will not."

Using the Surplus.

In face of this, and as, far from lightening the burden, the Government has now increased it, I suggest that we motorists, paying the piper, have a right to call the tune—at any rate, so far as the Road Fund revenue is concerned. And the tune I would suggest we call—and call in no uncertain fashion—is this: That the whole or, at any rate, 60 per cent. of the present accumulated moneys in the Road Fund and of the unspent portion of each yearly addition thereto be allocated to the formation and maintenance of a national fund for the upkeep of the country's hospitals and/or the care of and provision for ex-Army and Navy men disabled in the Great War.

Such a fund would, of course, have to be administered by persons having the interests of our hospitals and soldier boys at heart, and not by a Government department or officials. We all know how the money would go under the supervision of the latter. In this way our hospitals and similar institutions would be relieved of the indignity of begging, and all parties, whether Conservative, Liberal or Labour, would benefit, although still at the expense of one section of the community.

Alternatively, let the Government remove the petrol tax and use the unspent moneys of the Road Fund for the relief of those rates for which Mr. Churchill shows so much concern and is so anxious to relieve out of other people's pockets. XV6770.

Running on Paraffin.

I was surprised to see from the paragraph in "Rich Mixture" last week that a number of people are apparently thinking of running their cars on a mixture of paraffin and petrol. A year or two ago when petrol was 1s. 6d. or even more a gallon no one dreamed of using paraffin as a substitute. Why should they want to do so now? Is it because a tax has been imposed? I hold no brief for Mr. Churchill's grabbing methods with regard to motorists, but I cannot help thinking that to sacrifice performance and convenience simply to avoid paying the tax savours very much of cutting off one's nose to spite one's face. I presume the people who are toying with the idea of using paraffin belong to that type of individual who would rather spend sixpence than give the Government fourpence. Truly it takes all sorts to make a world! H. C. Rodley.

Where is the Need?

Traffic Control at Leatherhead.

I should like to call attention through your columns to what, in my opinion, is a rather bad example of traffic control. I refer to a point at Leatherhead, where the Guildford-Epsom road crosses the Dorking road. When one is proceeding towards Dorking it is impossible to see the policeman on point duty until one is right round the bend and half-way up the tricky slope. I suggest—and I am sure that others who know the spot will agree with me—that a second point-duty man is necessary at busy times; this would enable traffic from Kingston to Dorking to be held up near the fire station at the bottom of the hill, with the result that traffic could get away far more quickly than at present and without so much clutch-slipping and "conking out" with its inevitable confusion and delay. Perhaps some of your readers who know the spot well would like to give their opinions? A. Tomlin.

The "Invisible" Policeman.

ACCELERATION! —— Drivers and mechanics sprinting to their cars after receiving the starting signal at the Essex M.C.'s Six-hour Endurance Race at Brooklands on Saturday last. A full report of the event appears elsewhere in this issue.

OUR READERS' OPINIONS (contd.).

Gradual Payments for Repairs.

I am very glad that the possibilities of gradual payments for repairs are being discussed, because a bill of £12 or so is not too easy to meet if one can only just afford to run a car.

An Interesting Suggestion.

Frankly, however, I cannot see any way of overcoming all the difficulties mentioned by Mr. N. P. Baker if we are to employ a system similar to those in use for the actual sale of articles, but it occurs to me that the following scheme might be workable in cases of garages which not only undertake repairs but also store a large number of cars.

The idea is this. Customers who wished might contribute a few shillings each week to a "repair fund," the money being paid at the same time as the storage charge. Thus a customer, instead of paying 7s. per week for garage, would pay perhaps 12s., the extra 5s. being credited to him in the

OUR HEADINGS TRAVESTIED,

No. 6.—"Our Readers' Opinions."

firm's books. Then, whenever any repairs were needed, there would already be a certain amount of money standing to his credit, and if this were not sufficient to cover the cost of the repairs he would not be asked for the balance in a lump sum, but would be allowed to pay it by his subsequent weekly contributions, provided, of course, that the garage proprietor was satisfied with his integrity; as he would be dealing with a regular customer, the proprietor would naturally have every opportunity of judging on this point.

Personally, I think this scheme would be quite attractive to a number of motorists, but it will be interesting to hear what other readers think of the idea. Of course, I realize that those who take advantage of the scheme would lose money on interest, but this would be very slight, and, after all, quite a number of people lodge a sum of £5 or so with the makers of their cars so that they can obtain spares quickly. I do not think the question of interest would, therefore, present any difficulty. A.R.C.

Careless Parking on Hills.

The recent paragraph in "Rich Mixture" headed "Know Your Brakes" prompts me to write about leaving cars unattended on hills. Living as I do a little way up from

Dangers of Runaway Cars.

the bottom of a hill in the old town of Colchester, I have seen the results of runaway cars. In one instance a car, after travelling 150 yards, mounted the pavement and flashed by my door, finally making for the roadway again and eventually ending its run with a smashed bonnet in contact with a tram standard. On another occasion a car ended its run six doors below my house in argument with a bay window, the result being a broken window frame and glass and damaged brickwork; whilst quite recently a runaway starting from well up the hill was stopped by collision with a trade van. Happily, in none of these instances was there any personal injuries.

What is the reason for cars running away in this manner? Is it carelessness or ignorance in not making use of the kerb or a scotch? Surely the excuse of the meddling boys can be ruled out in these days of rigid side screens and closed cars when brake levers are no longer handy. H.C.B.

Ugly Dickey Seats.

The experience of your contributor "Focus" regarding the effect of larger wheels on the look of his car shows what a difference small modifications can make in the appearance

A Common Fault.

of a car. To produce a body which is in every way attractive to look upon and is at the same time convenient and comfortable is no easy task, particularly in the case of a light car. One point on which manufacturers always seem to make a mistake is in the dickey seat; for some reason or other most designers seem quite unable to fit a tail which harmonizes with the rest of the body, and yet provides room for a comfortable two-seater dickey.

I can think of only one really small car where this has been done effectively—in my opinion, at any rate—and that is the 1928 Singer Junior. I wonder where the difficulty comes in? Incidentally, has the question of appearance been one of the reasons for the decline of the two-seater?

N.W.T.

Reduce That Cost Per Mile.

No doubt many enthusiasts are forced to study economy in many directions to enable them to enjoy the pleasures of motoring. I admit that I, for one, am forced to keep a sharp

Effects of Increased Mileage.

eye on expenses, but, nevertheless, my annual mileage is considerable. Judging from the attitude adopted by some of my friends, many motorists who are forced to economize appear to do so in a peculiar manner.

As an example, let us consider the owner who uses his car for pleasure trips. Does he make use of it other than for fairly long runs? I doubt it. Yet he does not refrain from using his car for short trips because public services are preferred, but under the mistaken idea that he is economizing.

My own experience has proved conclusively that I cannot afford to let my car stand idle while it is taxed!

The usual charges, such as garage, horse-power tax and insurance, remain the same no matter whether the annual mileage is 5 or 50,000; therefore, apart from actual running costs (petrol and oil bills, etc.), increased mileage, besides being a matter of convenience, brings about a reduction in the cost per mile. In other words, every additional mile costs less than the preceding one. G. PETTENGELL.

Minimizing the Danger of Backfires.

I have read with much interest the many letters you have published regarding the safe or proper grip to use when starting an engine by the handle. I take it that the danger

The Best Way of Starting.

of damage to one's arm exists only in the case of engines which are difficult starters. But need any engine be dangerous in this way? The average modern engine is pretty easy to turn over, and it seems to me that the starting instructions given in your recent article on "Driving to the Best Advantage—Austin Seven" might very well be applied to any car.

For the benefit of readers who may not have read that article, or who may have destroyed the copy of your journal containing it, perhaps I may repeat the instructions, which are as follow:—"Turn on the petrol and raise the carburetter needle until the float chamber is full, but not flooding. Then, with the magneto switched off and the strangler closed, turn the starting handle slowly two or three times, subsequently releasing the strangler, switching on and giving one sharp pull up."

If the danger of a backfire is very great, or the spark setting is very advanced indeed, retard the ignition lever about one-third or even more, advancing it again as soon as the engine is running. On the Austin nothing beyond this procedure is necessary oven in cold weather. F.K.M.

OUR READERS' OPINIONS (contd.).

CONDENSED CORRESPONDENCE.

Mr. C. Hunt (London, S.W.9) writes to say that he has obtained better results from his Fiat Nine by the use of Champion No. 8 sports plugs in place of the standard No. 8 type which were fitted by the manufacturers. He also states that he has found Marelli plugs well suited to the needs of this car.

Mr. F. Portlethwaite (Tavistock) writes to recommend a good Dartmoor camping site on the Okehampton-Tavistock road; it is situated at a small hamlet called Sake, about six miles from the former town, and is the property of Mr. Dennis Roach, who is willing to allow its use for a small consideration. Readers should note, however, that a tent and not a caravan would be needed, as it is impossible to drive a car to the actual site.

INFORMATION WANTED.

SINGER.—Any reader who has an instruction book for the 1924 10 h.p. model for sale is asked to communicate with W. Bowery, 33, Drakefield Road, Balham, S.W.17.

ROVER EIGHT.—The chance to buy or borrow an instruction book for the 1924 model would be welcome.—H. Corbishley, 61 Huntingfield Road, Roehampton, S.W.15.

AUSTIN SEVEN.—The opportunity to buy an instruction book dealing with the 1925 model would be appreciated.—H. C. Watson, 80, Broadhouse Gardens, Hampstead, N.W.6.

BELSIZE-BRADSHAW.—Any information regarding the construction of a satisfactory external oil cooler for this car would be appreciated.—C. Thompson, 13, Poplar Road, Kingsway, East Didsbury, Manchester.

STANDARD.—The opportunity to buy or borrow a spare-parts list relating to the 1920 9.5 h.p. model would be appreciated.—Chas. F. Castell, 76, West View, Letchworth, Herts.

G.N.—Any reader who has an instruction book dealing with the 1922 Standard model which he is willing to lend or sell is asked to get in touch with George Washington, 11, Ridgmount Road, Wandsworth, London, S.W.18.

MORGAN.—Owners' experiences of the 1928 aero and super-aero models fitted with o.h.v. J.A.P. engines with particular regard to flexibility, petrol and oil consumption, comfort for a tall driver and weather protection, would be appreciated.—B. G. Gildersleeve, 92, Nightingale Lane, Wandsworth Common, London, S.W.12.

LOST.—Near Leith Hill, the front of a 6-in. Rotax headlamp. The finder is asked to get in touch with F. Phelan, 55, Aynhoe Road, London, W.14.

CLUB ITEMS AND SPORTING EVENTS.

SOUTHERN JOWETT L.C.C.

On Sunday next, May 20th, the second annual reliability trial for the Southern Jowett Challenge Cup is being held by the Southern Jowett L.C.C.

Hon. sec., Mr. E. A. Dudley-Ward, 186, Tamworth Lane, Mitcham, Surrey ('phone, Mitcham 1516).

SURBITON M.C.

To-morrow, Saturday, the Surbiton M.C. is running an open reliability trial (for motorcycles and three-wheelers) for the Maudes' Challenge Cup and the Surbiton Cup. The start will be from the Talbot Hotel, Ripley, and the course consists of circuits of approximately 35 miles in length which are to be covered twice. As the trial is for genuine amateurs only, the route does not include any hills or roads of a freakish nature.

THE LONDON M.C.

The venue for the captain's picnic run on May 20th will be the Isle of Wight. The start will be from Marble Arch, London, at 8 a.m. The London Ladies' M.C.C. has accepted the invitation to participate in this social event.

A very attractive summer programme, consisting of social runs, invitation visits, trials and sporting events, is being well supported by all the members. Full particulars of the club's activities may be obtained from the hon. secretary, Mr. F. W. C. Lawrence, 23, Primrose Hill Road, Hampstead, N.W.3.

NORTH LONDON M.C.

The treasure hunt held on April 29th proved to be quite an enjoyable outing, in spite of the fact that all but three competitors lost their way! Two of these met with trouble at a water-splash, whilst the third successfully negotiated a footbridge across the splash and came home an easy first.

Motorcycle dirt-track racing is being held at Stamford Bridge Sports Ground every Wednesday and Saturday. On Sunday next there will be a social run to Alms Hill, starting at 3 p.m. from the "Abercorn Arms," Stanmore.

It has been proposed to hold a Peak trial on September 8th in place of the usual Yarmouth trial, and the course will include some of the famous hills in the Peak district. Further details may be obtained from Mr. Alan W. Day, Claremont, Ballards Lane, Finchley, London, N.3.

SKEGNESS MOTOR RACES.

The sporting-car races on the foreshore at Skegness will this year be held on Monday and Tuesday, June 18th and 19th.

The programme includes classes for sports and racing cars from 1,100 c.c. upwards. Except for two sports car events restricted to novices, the entry is open. A new event is a five-mile race, introduced to enable spectators to witness some spectacular cornering. The usual handicaps will be held on the second day. Mr. A. V. Ebblewhite will again officiate as timekeeper and handicapper and Mr. A. G. Reynolds as starter.

Altogether the event should provide two days of most enjoyable motor sport, both for entrants and spectators. Prospective entrants are advised to apply as soon as possible to the secretary, Mr. Reginald J. G. Dutton, Council Offices, Skegness, from whom entry forms and full details may be obtained.

R.A.C. PERMITS.

Closed permits have been issued by the R.A.C. for the Southport M.C. reliability trial, May 20th; the Woking M.C. social touring trial, May 20th; and the Leeds reliability trial, May 29th.

C.S.M.A. "GAZETTE."

The C.S.M.A. "Gazette" for May has been issued by the Civil Service Motoring Association. Particulars of the programme for Whitsun are given, together with a number of interesting events in the May calendar of the C.S.M.A. Full details may be obtained from the Association at 96a, Granby Road, Eltham, London, S.E.9.

FORTHCOMING EVENTS.

May 19.

Surbiton M.C. Maudes' Team Trial.
Coventry Triangle M.C. Run to Creaton.
Wood Green D. M.C. Ladies' Trial.
Vesey Cup Trial.
Leytonstone D M.C. Route-reading Contest.
Huddersfield D. M.S.C. Dalton Bank Hill-climb.

May 20.

Southern Jowett L.C.C. Challenge Cup Trial.
London Eagle M.C. Social Run.
Midland Jowett Club Rally.
Woking M.C. Trial.
Southport M.C. Trial.

May 21.

C.S.M.A. Annual Championship Trial.

May 23.

Middlesbrough D M.C. Reliability Trial.
North-West London M.C. Evening Run.

May 25.

M.C.C. London-Edinburgh Starts.

June 9.

Surbiton "150."

BELSIZE-BRADSHAW L.C.C.

The first meeting of the season will take place on Sunday next, May 20th, on which occasion there will be a social run to Crowthorne, Berks, members meeting at Ealing Common Station at 2.45 p.m. All Belsize-Bradshaw owners will be welcome.

Hon. sec., Mr. G. E. R. Nicholson, 36, Barrowgate Road, Chiswick.

VESEY CUP RUN.

The 8th Vesey Cup Run will be held tomorrow, Saturday, by the Sutton Coldfield and North Birmingham A.C. The "convoy" system will this year be used to control competitors, and this is operated as follows:—An advance marshal's car will precede the competitors, and this, at a time interval of 10 mins., will be followed by the rear marshal's car. The two controlling cars will travel at the lowest speeds, which will enable competitors to average 20 m.p.h., although a lower average may be set in certain parts of the course. A brake test will also be included in the trial.

DALTON BANK HILL-CLIMB.

The Huddersfield and D. M.S.C. is holding a freak hill-climb on Dalton Bank, Huddersfield, on Saturday, May 19th.

The event, which will start at 2.30 p.m., includes a class for cars of any capacity, the remainder of the classes being for solo motorcycles and sidecars. A charge of 6d. will be made to view the climb and ample parking accommodation will be available.

The secretary of the meeting is Mr. C. H. Hinchcliff, 37, College Street East, Crosland Moor, Huddersfield ('phone 1152).

WOOD GREEN AND D. M.C.

A ladies' reliability trial is being held on Saturday, May 19th, by the Wood Green and D. M.C. An open permit has been obtained, and the route, mostly over main roads, will be approximately 80 miles in length. Tests arranged at certain points will include non-stop ascents of hills, a slow hill-climb, a brake test and a stop-and-restart test.

Competitors will be despatched from the Alexandra Palace, starting at 2.30 p.m. The principal awards include the Mrs. Le Vack Challenge Shield and replica, a special silver cup presented by the originator of the trial, Mr. J. H. Glover, and silver cups, silver medals, bronze medals and silver-backed hair-brushes.

Prospectuses and entry forms can be obtained from the hon. trials organizer, club offices, Crescent Road, London, N.22.

MIDLAND JOWETT CLUB.

As a recent general meeting of the Midland Jowett Club Mr. F. W. Wall, Resmor, 31, Grafton Road, Handsworth, Birmingham, was appointed hon. secretary for the ensuing year, this position having fallen vacant through the resignation of Mr. Pacey, who has held the secretaryship since the club's inauguration.

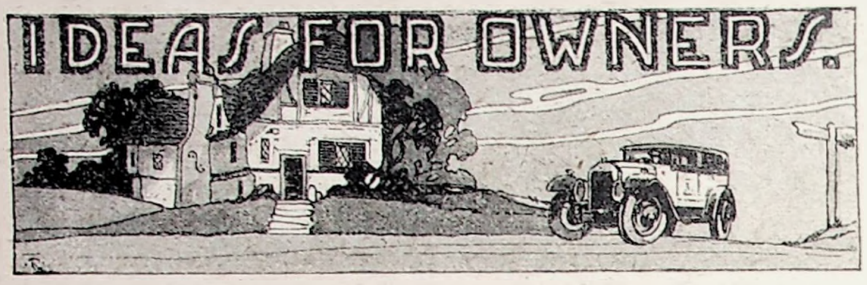
A very enjoyable and successful rally took place on Sunday, April 29th. A large number of Jowett owners assembled at the Hall of Memory, Birmingham, and travelled via Bridgnorth to Wenlock Edge.

The next rally is on May 20th at 10.45 a.m., and there will be a run to Dovedale. The route is via Lichfield, Abbots Bromley, Uttoxeter and Ashbourne. A "mystery" competition will be held in connection with this, the details of which will not be divulged until Dovedale is reached.

LANGFORD AND D. L.C.C.

The first trial of the season was held on Saturday, May 12th. The course was some 70 miles in length, starting at Filton Aerodrome and proceeding via Axe Lane, Horsby and Nap Hill to the tea check. The only failures registered were due to lack of power in the case of some of the smallest cars on Axe Lane, and to too high speed on the Nap Hill hairpin on the part of a Morgan driver who only just prevented his machine from overturning. A Frazer-Nash driver was unfortunate in breaking his low-gear chain after the worst part of the hill but before the end of the observed section.

Results: C. N. Potter (Austin Cup Model) and J. B. Steadman (Riley) tied for first place, and each will receive a silver cup. Silver medals to H. Clegg (Austin Sports), H. B. Browning (Austin Cup Model), R. G. C. Schwalm (Frazer-Nash), and bronze medals to J. Baily and H. V. Phippen (Riley Nines).

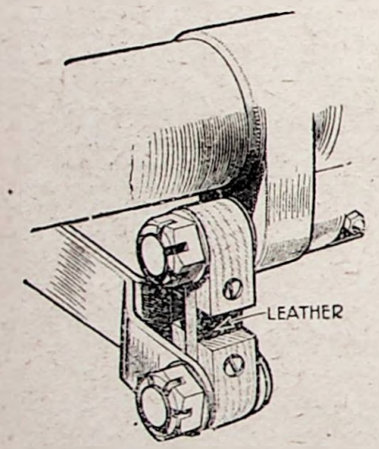


We invite readers to send us hints gained from their own experience for inclusion in this feature. Five shillings will be paid to the sender of any hint published, but we cannot undertake to return contributions not used.

Austin Shock Absorbers.

The shackles of Austin Seven rear shock absorbers may be the cause of annoying rattling noises when wear occurs. If the owner does not wish to have the shackles rebushed with wood the trouble can be obviated by substituting for the standard fittings two small blocks of wood, between which a strip of leather belt is clamped.

The leather should be about 2¾ ins. long and ⅛ in. thick and should be secured in a slot cut in each of the wooden blocks by means of wood screws.



Wooden blocks may be cut to take the place of Austin rear shock-absorber shackles when wear occurs.

Each block should be 2 ins. deep by 1 in. by 1 in. and should be drilled for fitting to the axle and shackle absorber arm. There should be a clearance of about ¾ in. between the faces of the two blocks when they are in position.

Screen-wiper Tubing.

Bowden outer casing makes an excellent substitute for the small-bore rubber tubing generally used for connecting up suction-type screen-wipers. The casing is quite air-tight and is not so likely to be damaged by friction as is the rubber tubing.

It is not, of course, possible to slip the casing over the inlet piece of the wiper barrel or over the short junction pipe on the induction manifold. At these two points 2 ins. or 3 ins. of stout rubber tubing should be used to connect the Bowden casing.

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Plugs for Lea-Francis Cars.

When buying new plugs for Lea-Francis cars it should be noted that only long-bodied plugs are suitable. The hexagons of short-bodied plugs foul the edges of the recesses into which they are screwed.

Battery Hint.

The specific gravity of the acid in a battery is a good indication of the state of charge, for the s.g. value varies according to the chemical composition of the plates. The correct strength at full charge varies between 1.225 and 1.300, according to the type and make of battery.

It is quite a simple matter to remove one of the vent plugs, to insert the nozzle of the hydrometer and to withdraw a small amount of the acid for test. Hydrometers are of various types, but are usually provided with some kind of float, the level of which in the acid indicates the specific gravity.

Singer Tappet Clearances.

The correct tappet clearances for Singer Juniors are 3,000ths of an inch for the inlet valves and 4,000ths of an inch for the exhausts.

If the thimbles on the ends of the valve stems can be turned easily, when the engine is hot, without end play, the clearances may be taken as approximately correct. This should be regarded only as a makeshift tip, however, and a feeler gauge should be used whenever possible. Correct tappet clearances have an important bearing on engine performances.

Headlamp Fixing.

Some cars, such as the Austin Seven, have the lamps mounted on brackets at the base of the windscreen pillars. A number of owners wish to make the conversion of fixing the lamps on the mudguards to obtain better illumination.

A point to be noted is that the headlamps are usually rather heavy, and although the mudguard stays may be sufficiently strong to carry the weight the guards themselves may be cracked by vibration unless the lamps are properly mounted. The hole in the mudguard should not be drilled any larger than is necessary to take the mounting piece of the lamp, and large-diameter fibre washers should be placed both on top of and beneath the mudguard. Spring washers should also be used to secure the bolts holding the lamps in position.

Queries of general interest will be answered under this heading whenever possible, but a stamped addressed envelope must be enclosed for reply by post. Telephonic inquiries cannot be answered.

M.P. (Notting Hill Gate).—Friction discs for disc-drive cars can be obtained from A. G. Grice, Tilcale Motor Works, Berks., or from G.W.K., Ltd., Cordwalles Works, Maidenhead.

T.L. (Leytonstone).—We understand that the Benjamin car is still being manufactured in France, the address of the makers being Automobiles Benjamin, 139, Boulevard Voltaire, Asnieres, France.

C.F. (Dorking).—When timing the ignition of your J.A.P. engine, the left-hand cylinder (looked at from the valve side) is No. 1. This cylinder should be used for the timing operation, and the full advance position is with the piston ¾ in. from T.D.C.

G.C. (Leyton).—You will find that any good-quality wax polish or furniture cream gives good results on leather hoods. The cream may be thinned with a little turpentine to make it "work" more easily. Hoods of tan leather should be dressed with a furniture soap.

A.F.L.N. (Wanstead).—The fact that your carburetter floods when the car is standing on the level seems to indicate that the level in the float chamber is too high, or to defective seating of the needle.

S.V. (London, S.E.25).—Try the effect of lower tyre pressures on your Jowett car, say, 19 lb. front and 21 lb. rear. Make sure that the spring leaves are not rusted up and the shackles are working freely.

B.M.J. (London, E.11).—That the dynamo generates excessive current since it was overhauled may be due to the fact that the position of the regulator brush has been altered slightly. Consult the repairers who carried out the work.

M.A.W. (London, S.E.7).—There are several variable-jet devices on the market which could, doubtless, be adapted to fit your carburetter. The principle on which your particular type of carburetter functions does not, however, really lend itself to the addition of fittings of this kind.

N.B. (Hanwell).—The constant oiling up with which you are troubled on your old-type Morgan is possibly due to the need for regrinding the cylinders and fitting new pistons. Until you can conveniently have this work done try cutting down the oil supply to about 20 drops per minute when "pottering."