Vol. XXIX No. 733
Friday Dec. 24 1926

The only Small Car Journal

ZERO HOUR IN THE "EXETER"

The annual club run from London to Exeter and back starts from Staines on Monday evening next. Stiff hills in the West Country, usually inclement weather and only a few hours of daylight make the event one of the most strenuous of the year. "Zero Hour" for the first man away is 8 p.m., and our photograph shows a typical scene at the start.

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A PRACTICAL and concise book that tells you all you want to know about acquiring a car. Beautifully bound and printed, it contains articles concerning the policy of Normand and the service maintained, examples of purchase as well as notes on insurance.

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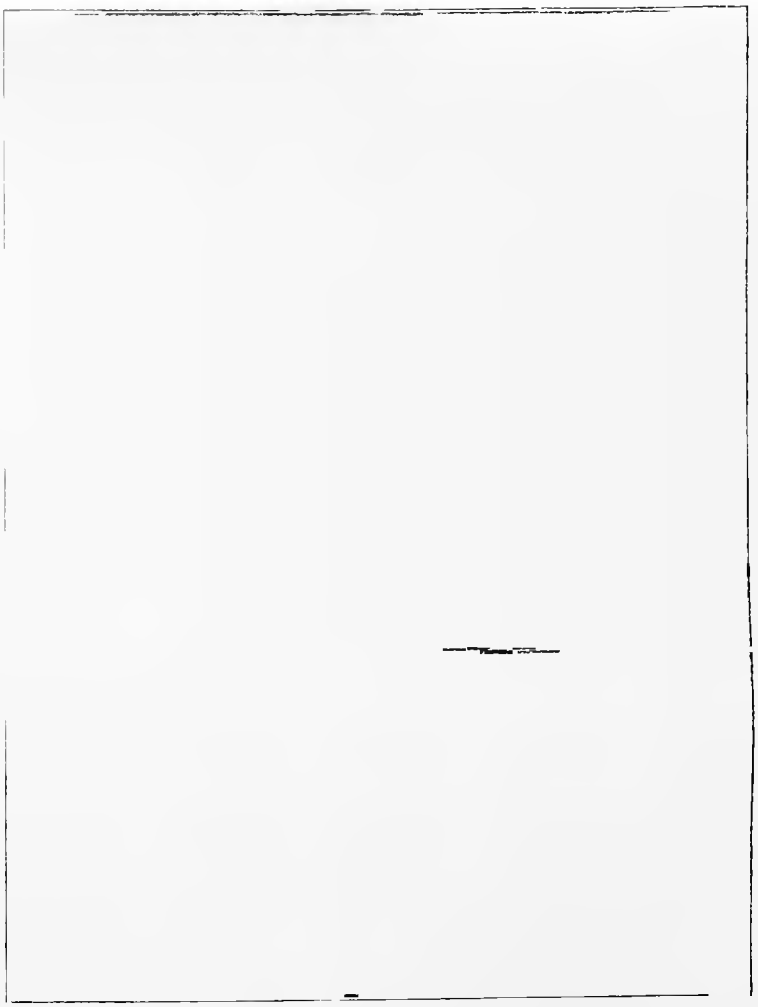

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him perfectly happy.
The Jowett will do

Wishing everybody happiness
From the Directors and Employees of

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M'KINNON "DREADNAUGHT" Non-Skid TYRE CHAIN

NOTE THE "BLUE BOY" — LEVER LOCK — QUICK & EASY FITTING.

GRIP

imparted by the "Dreadnaught" Chains render motoring safe under the worst conditions. The ever present danger of skidding is eliminated. No injury to tyres is caused by their use, and they stand the hardest wear. Manufactured for Cord, Balloon, Single and Twin Pneumatics, also Single and Twin Solids, all Motorists should include these chains in their equipment.

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Any Jowett or Rover Agent will supply. 3 Guineas, carriage paid.

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WHEN DRIVING AN AUSTIN "7"

And how useful would you find a free hand for signalling for steering, but the operating of the hand brake requires all your attention.

Fit a BODELO BRAKE ATTACHMENT which will enable you to apply all four brakes simultaneously by means of the foot pedal only and will leave your hands perfectly free. The BODELO is extremely simple to fit and absolutely effective.

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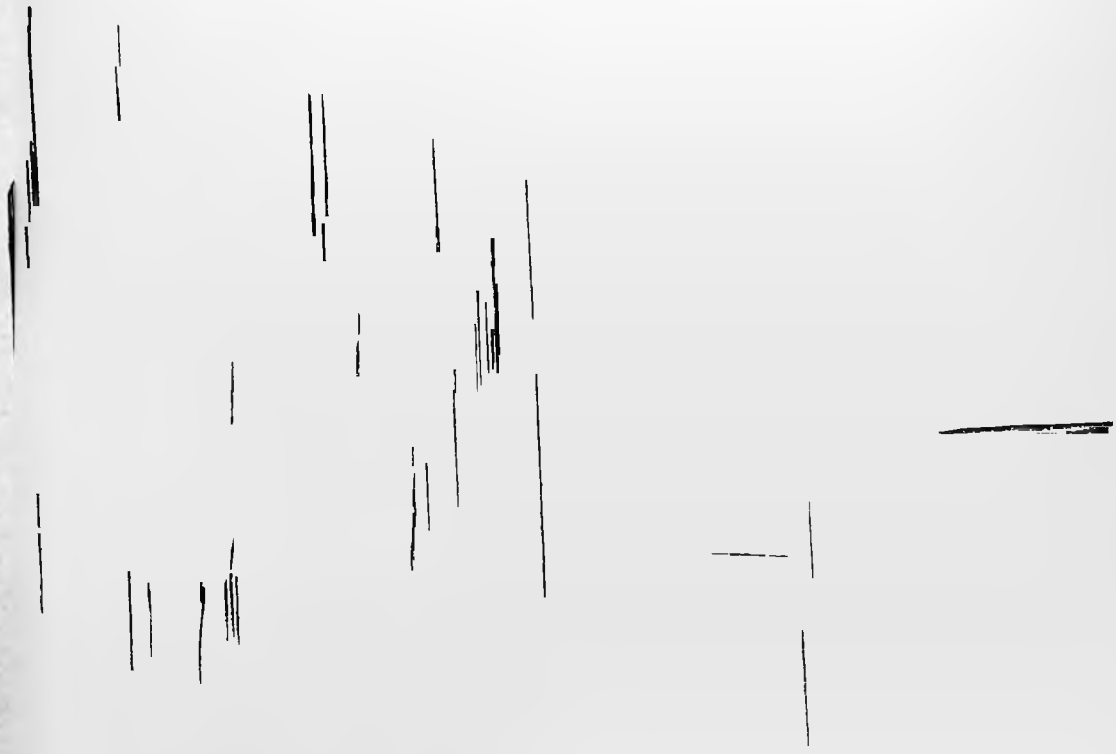


as illustrated:

£165

at Works.

TOURER

£145

GIRLS will be girls and, far as he was from wishing to put a damper on his daughter's pleasures, he had to confess to a certain trepidation every time she went a-pillion riding. Then came the happy thought: Why not get her an Austin Seven, thereby giving her infinitely greater enjoyment and at the same time restoring his own good peace of mind?

"Safe as houses" is the Austin Seven—the very soul of reliability, easily managed in the thickest of traffic, delightfully comfy on any road in any weather, and *wonderfully* economical. Forty miles to the gallon is a very modest estimate.

Send now for descriptive Booklet.

THE AUSTIN MOTOR CO., LTD

LONGBRIDGE, BIRMINGHAM.

London Showrooms: 479-483, Oxford St., W.1 (near Marble Arch)

The small advertisement columns of "The Light Car and Cyclecar" form a unique mart for the disposal of all goods of interest to small car users.


The Light Car and Cyclecar
YE OLDE BEAR INN
POSTING HOUSE
GREETINGS
To those who are stopping at home this Christmas, to those who are visiting friends or relatives, and to those stout fellows and their fair passengers who are taking part in the run to Exeter, and other club events, we extend our best wishes for a Jolly Christmas.

NOTES, NEWS & GOSSIP of the WEEK

Not a Race.

May we anticipate reports in the lay Press by emphasising the fact that the London-Exeter run is not a race?

Beware of Ice!

Those who motor between sunset and sunrise should beware of icy roads at this time of the year. Ice often looks like water in the light of the car lamps. Three crashes in less than a mile were recently observed by a member of our staff: all of them were attributed to the slippery surface and the fact that the drivers did not realize the danger until too late.

Motoring Committee Protest.

The Motor Legislation Committee has forwarded a resolution to the Home Secretary protesting against many of the proposals in the Factories (No. 2) Bill. The protest is based upon the belief that all reasonable safeguards are provided for by existing factory legislation and that any further burdens on the motor industry must tend to increase the price of motor vehicles.

This Week.

Although the entries are slightly fewer—due to the ban on trade drivers—the "London-Exeter" naturally occupies the centre of the stage of motoring sport at Christmas, and in this issue we give a list of the car entries, a bird's-eye view of the most interesting parts of the course, a "timetable" and a number of interesting facts concerning the run and the conditions that govern it. Our test-run report deals with the Bianchi—a modern light car of Italian origin—a type of vehicle which forms a striking comparison with those discussed in our centre pages.

ON OTHER PAGES

LIGHTING-UP TIMES (Rear Lamps) for Saturday, December 25th.

London	4.23	Edinburgh	4.09
Newcastle	4.09	Liverpool	4.23
Birmingham	4.21	Bristol	4.33

Still Cheaper Petrol.

Taking effect last Monday, December 20th, the prices of combine motor spirit and National Benzole mixture have been reduced by ½d. per gallon from pumps and cans in the Metropolitan Police area. In the Outer London area the price per gallon in cans has been advanced ¼d. Several non-combine concerns announce similar price revisions.

Extreme Care Needed.

Motorists entering London via Archway Road should proceed very cautiously in the vicinity of East Finchley Station, as extensive road repairs are in progress.

A Record Attendance.

As proof of the interest which is being taken in cellulose finishes, it is interesting to note that a recent lecture on this subject before the Liverpool branch of the Institute of the Motor Trade attracted a record attendance.

Next Week.

Next week's issue of *The Light Car and Cyclecar* will be published as usual on Friday. The principal feature of interest will be a graphic report of the London-Exeter, compiled from information supplied by members of our staff who are either competing or making special observations on the test hills.

Many Thanks.

We have received a large number of Christmas cards from readers, and, in case any have inadvertently not been acknowledged, we wish to take this opportunity of tendering our sincere thanks. It is, indeed, most encouraging to receive these tokens of appreciation.

A Christmas Present Suggestion.

What more useful and acceptable present could be found for a light car owner than a year's regular delivery of *The Light Car and Cyclecar*? The journal will be mailed week by week for 12 months for an inclusive charge of 19s. in the United Kingdom and Canada and 21s. abroad.

Jay Walkers, Beware!

The sins of the "jay walker" are finding him out. At a recent meeting of the L.C.C. General Purposes Committee it was admitted that careless walking was the cause of many accidents, and it was hinted that "walking to the public danger" should be just as much an offence as "driving to the danger." Coming from such a quarter the hint merits serious consideration.

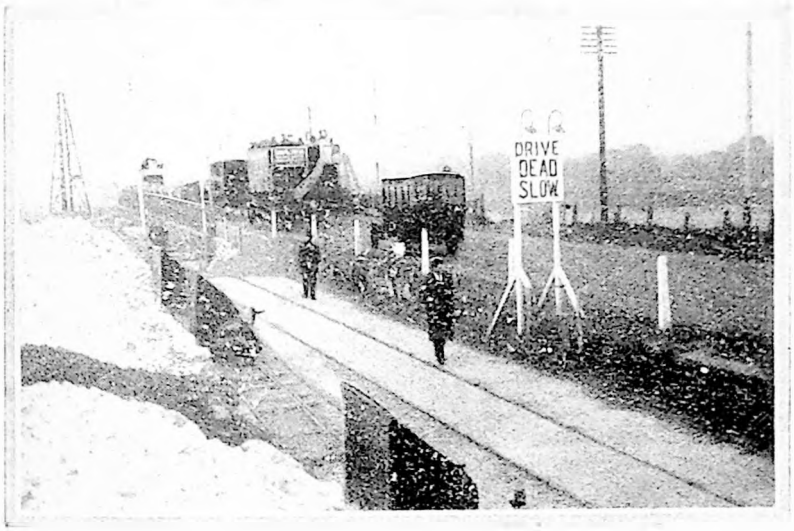
FOR MAN AND MOTOR. — **Combined cafes and garages are to be found on many roads nowadays. Those depicted above are (top) near Biggleswade on the Great North Road, and (left) half-a-mile from Congleton, Cheshire, on the main Coventry-Manchester road.**

Thoughtlessness.

A stationary car on the wrong side of the road with all lights on! Could anything be more aggravating? Yet recently we have encountered such conditions in different parts of London on three nights running.

Direct Action.

A lorry driver, near Daventry, objecting to the headlamps of an oncoming car, drew across the road, sprang out and struck the car driver in the face. The A.A. prosecuted him, and he was fined £3 10s. for assault.



DANGER AHEAD! —— Notices similar to that shown above are being displayed in many places where road repairs are in progress. Wherever possible the boards are illuminated at night.

Australian Bodybuilding.

New works with a floor area of over four acres have recently been opened at West Melbourne by the Melbourne Motor Body and Assembling Co. Pty., Ltd., the present maximum capacity being 30 cars a day with bodies complete. The company, says Reuter, is now making 42 body patterns in all.

Motorist's Log Book.

The National Safety First Association and Messrs. Charles Letts and Co. are jointly publishing a combined pocket-book and motor log. It is designed to hold a driving licence, season ticket, treasury notes, stamps and so forth, whilst the log contains tables for recording running costs, tyre mileages, petrol and oil consumption, repairs and other relevant data; a lighting-up time-table, calendar and blank pages for notes are also included. The price is 3s., or, in leather, 6s. 6d., and the pocket-book is obtainable from the above Association at 119, Victoria Street, London, S.W.1.

Whitaker's Almanack.

Among the valuable and interesting facts given in the 1927 edition of Whitaker's Almanack are details of the weather during the four holiday months (June to September) for the past 51 years—a feature which should prove particularly interesting to motorists with a penchant for the art of weather forecasting! For 1927 Whitaker's Almanack is published in two editions, as in former years, except that the cheaper edition is now an abridgment of the *whole* of the complete edition and not, as was previously the case, merely a part of it. The prices are: Abridged edition, 1s. 6d.; complete edition, 6s.

No Guides or Scouts on Christmas Day.

As in former years, there will be no R.A.C. guides or A.A. patrols on duty on Christmas Day, and motorists are advised to exercise extra caution, as many danger points at cross-roads and so forth will be unguarded. The full force of A.A. patrols will be on duty during the remainder of the holiday period, but on Sunday, December 26th, only a diminished R.A.C. service will be in operation, full strength being restored on Boxing Day.

A French Gas Turbine.

According to a French newspaper, an engine known as a semi-turbine has been built by an army engineer. Full details are lacking, but it seems that the normal turbine principle is used.

British Motorcar Exports.

"The Board of Trade Journal" announces that for the year ended November 30th, 1926, motorcars and chassis to the number of 32,145 were exported from this country. This compares favourably with the 1925 figures, which were 27,549.

Sparking Plug Spanners.

Lodge Plugs, Ltd., point out that where a box-spanner is used for screwing in or unscrewing sparking plugs care should be taken to see that the tommy bar, in passing through the spanner, does not foul the terminal end of the central electrode. Unless this is avoided there is a risk of damaging the insulator owing to the side pressure exerted on it by the tommy bar.

Parcels in Unattended Cars.

The R.A.C. warns all motorists who may use their cars for Christmas shopping against leaving loose parcels, rugs, etc., in them whilst the cars are standing unattended in public parking places. Both the police and the R.A.C. guides, where they are on duty, make every effort to stop pilfering, but with the large number of motorists now using parking places it is impossible to keep a close watch on them all.

Quick Work.

Reading *The Light Car and Cyclecar* at breakfast last Friday morning, a reader on the look-out for a second-hand light car saw one which he thought would suit him, advertised from an address nearly 70 miles away. Enlisting the services of a friend and his car, he set out at once to inspect the advertised vehicle, taking with him the purchase-money in notes. Tea-time saw him again at his own table, having bought the car and driven it home.

CHICAGO'S FIRST DOUBLE-DECK CARRIAGEWAY OPENED TO TRAFFIC.

Where Wacker Drive, the first "double-deck" traffic street in Chicago and one of the first in the country, meets Michigan Boulevard along the waterfront. The double-deck driveway may be seen winding its way so far as the eye can see.

"Please Cross Here."

Westminster City Council is experimenting in Parliament Square, London, with notice boards telling pedestrians where to cross the road. The boards will be illuminated at night.

Reliability Trial for Women.

A London motoring club is organizing a reliability trial solely for women. The event will take place early next month, and as it is open to all women drivers, whether members of the promoting club or not, it should be well supported. There will be no entrance fee.

Co-operative Advertising.

The formation of a national organization of rubber manufacturers, growers, wholesalers and retailers with a view to co-operative advertising was advocated by Mr. W. F. V. Cox, secretary of the Institution of the Rubber Industry, in a paper read before the sales section recently. Mr. Cox stated that 75 per cent. of the world's rubber output is consumed by the tyre industry.

Pining for Sport.

Speaking at the annual dinner of the Surbiton Motor Club on Friday last, the captain, Mr. F. W. Barnes, deplored the lack of hill-climbs and speed trials. "The officials won't allow them," he said, "and Brooklands, apparently, is only for the favoured few; but," he added hopefully, "there is the Brighton track and I hope we shall soon be able to visit it and use motorcycles without silencers."

The "Sphyg."

A doctor claims that shock absorbers play a big part in keeping blood pressure normal, and he has made a number of comparative tests over long journeys in cars with, and without, shock-eliminating devices. Perhaps the blood-pressure reading instrument, known as the Sphygmomanometer, which he used will become a standard dashboard fitting in the future.

A Dispute and its Sequel.

As a result of an alleged right of way dispute residents of Alexandra Crescent, Bromley Hill, amongst whom are many motorists, have built a wall across the end of their road at the boundary with the L.C.C. Downham Estate. All through traffic is blocked, and the tenants of the two houses adjoining the barrier have laid barbed wire on their front garden fencing to stop access that way to the road. Developments are expected.

Winter.

In winter I get up at night
And dress by yellow candle light,
And swing the starting handle till
I think I really shall be ill.

In winter I came home at night
By one pale flickering off-side light,
Two miles from home the wiring fused
And all the good spare bulbs were used.

And now it's bitter cold and so
The wretched car will hardly go,
In summer, quite the other way,
I find she's boiling half the day!

ADAM.

Christmas Holiday Motoring.

That this will be a "road" Christmas is evidenced by the fact that the demand for A.A. routes during the holiday has increased 70 per cent. over last year.

I.A.E. Paper.

At a joint meeting of the Institution of Automobile Engineers and the Royal Agricultural Society of England, to be held on January 4th, 1927, at the Royal Society of Arts, John Street, Adelphi, London, Dr. B. A. Keen will read a paper entitled "The Place of the Tractor in Soil Cultivation."

His many friends will regret the passing of Sir Charles Friswell (above), the well-known motoring pioneer, who died on December 15th, aged 54.

Shap Fells.

Complaints by motorists regarding the dangers of Shap Fells in the winter have been brought before the Westmorland County Council and a scheme put forward by the county surveyor has been authorized. At the present time the road, extending for many miles from Hucks Brow to the summit, is not fenced. Posts have been erected at intervals, but in foggy or stormy weather motorists have to proceed at little above a walking pace, as it is practically impossible to define which side of the posts the road lies. The new scheme will result in posts being erected at each side of the road every 20 yards on the straight and every 15 yards on the bends. The upper portion of the posts on one side of the road will be painted black; on the other side of the road red.

Faded Licence: A Warning.

At Willesden a motorist was fined 10s. for using a car the licence of which was not legible. The defendant signified his intention of appealing.

Trojan Owners' Experiences.

Readers who have covered over 5,000 miles in 1926 Trojans fitted with the new 1,488 c.c. engine are asked to let us have their experiences for inclusion in our correspondence columns. For full particulars see the last page of "Our Readers' Opinions."

Bricks for Roadmaking.

Apropos of our recent correspondence on road-making materials, it is interesting to note that a company, known as the Hammill Brick Co., Ltd., is about to be formed with the object of marketing special process bricks, made on the J. B. Monnier patent principle, for engineering and road building purposes.

A Curious Puncture.

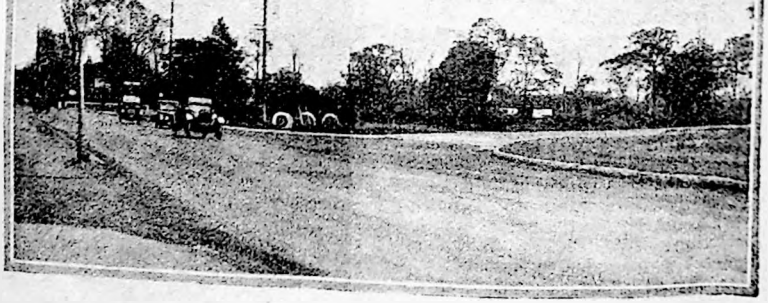
"A piece of bone extracted from one of the tyres of my 7-12 h.p. Peugeot," says a correspondent, "after it had penetrated the wall of the cover and punctured the tube, showed signs of deliberate fashioning to arrow-head form, and if, as seems possible, it is a prehistoric relic, its presence on the Birmingham streets, where the puncture was discovered, is a mystery.

Signs of Prosperity.

If building operations and extension of premises can be regarded as a sign of prosperity, then the motor trade in Coventry can be congratulated, as six sets of plans for various concerns have been approved in 1926 and seven building schemes completed in the same period. The makers of the Lea-Francis, Singer, Alvis and Riley are among the companies to make alterations to their premises.

Progress of I.M.T.

The Institute of the Motor Trade is making great strides in its membership throughout the country. The latest branches to be formed as the result of enthusiastic meetings are at Brighton and Southampton. The Institute, it will be remembered, aims at raising the standard of competence among motor traders, and each branch has before it a strong programme of helpful lectures and discussions.



THE KINGSTON BY-PASS. — **The much-needed Kingston by-pass is still a long way from being finished. This photo shows its junction with the Portsmouth Road at Esher. The section shown above is practically finished.**

"THE EXETER'S" EVERGREEN HUMOUR.

THE 'EXETER' ATTRACTS TWO KINDS ENTRANT, THE "SALOONATIC" AND THE WITHOUT THE "SA".

THE "TRADE" HAVING BECOME 'FAT SLEEK MEN —' ENJOY A HEARTY CHUCKLE AS THE ZERO HOUR STRIKES

DRAWS NEAR GENTLEMAN NAMED PRATT WILL ENQUIRE FOR YOU.

I'LL SING THEE SONGS OF MARLPITS AND TALES OF SALCOMBE HILL SLOPES TO CHEAT THEE OF A GOLD WHO CLAIM THEIR VICTIMS STILL!

OIL MOTOR-CYCLISTS ONLY

AND SO THE POOR CAR HAD NONE!

CLEVER LITTLE REINFORCEMENT IDEA —

ROUTE CARD

SAD PLIGHT SMART YOUNG MAN-ABOUT-TOWN WHO GREETED A FRIEND WHEN DRESSED THE RUN.

BECAUSE LAST YEAR WIND WAS SO STRONG THAT HEAD-LAMP BEAMS WERE BLOWN OFF THE ROAD.

OF COURSE WE SHALL HAVE —

COMPETITORS WHO HAVE BEEN UNLUCKY TAKE A TIP FROM THE MINERS, FORM GLEE PARTIES AND PAY YOUR WAY HOME!

PETROL? SHELL!

PRATTS SIR?

NEVER AGAIN!

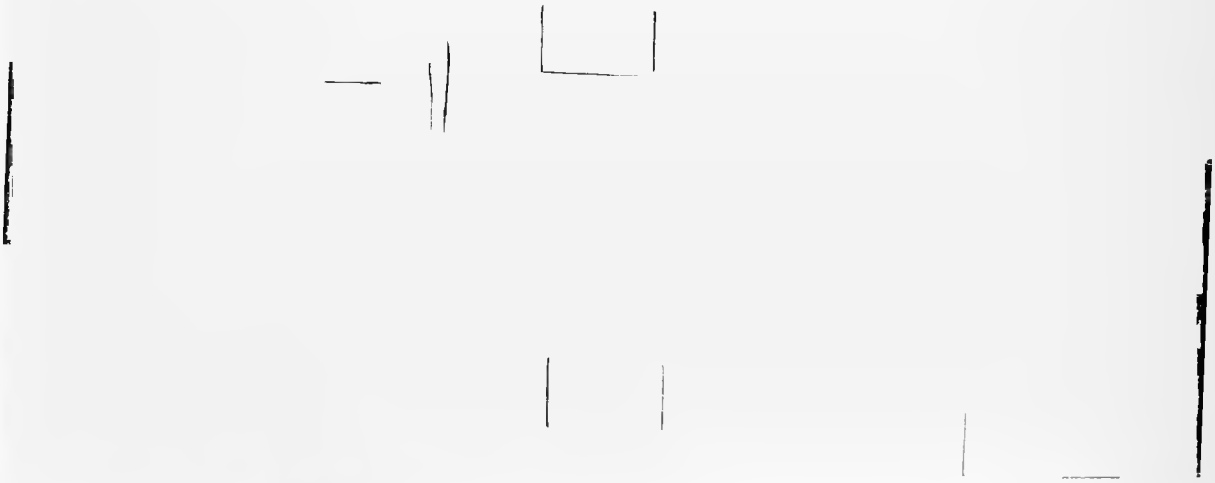
THOSE WONDERFUL PARKING MARSHALS AT (———)

AND THE SPIRITED WELCOME

LAST OF ALL THE GOOD OLD OATH

There is a fund of amusement for anyone with a sense of humour who takes part in the M.C.C. London-Exeter run. The artist has done so for years and thus supplies these advance impressions from his own experience.

A19



The most interesting part of the course beyond Salisbury, amongst the "West Country" test

THE TWELFTH LONDON—EXETER—LONDON RUN.

EXCELLENT ENTRY DESPITE THE TRADE BAN—THE COURSE UNCHANGED, BUT ALTERED CONDITIONS FOR THE ASCENT OF SALCOMBE—THREE-WHEELED CYCLECARS FACED WITH A STIFF TASK.

CONSIDERING the fact that last year there was no trade ban on competitions, this year—when the ban applies—the entry for the M.C.C.'s London-Exeter-London run must be considered exceptionally good, the actual figures being 375, against 420 in 1925.

Of this year's car entries 23 are three-wheeled cyclecars, 45 are cars not exceeding 1,100 c.c., there are 31 1,500 c.c. cars, whilst the balance are outside the light car limit. The full list will be found on the next page. The start will be at 8 p.m. on Boxing Day, and, as usual, the competitors will be despatched from the Bridge House Hotel, Staines. The first man is expected back at the hotel at or about 5.30 p.m. on Tuesday.

The course has not been altered and on the outward journey follows one of the popular routes to Exeter, via Salisbury, Shaftesbury, Sherborne, Yeovil, Crewkerne, Chard—once an observed hill in the "Exeter"—and Honiton. At the last-named place, however, the competitors turn south for Sidmouth, which is the threshold, as it were, of Peak Hill, the first test.

Peak has become so easy that it seldom accounts for many failures. Novices, however, usually make the mistake of endeavouring to change up far too soon, owing to the fact that the gradient appears to flatten out about half-way up, whereas, in point of fact, it is at that point anything between 1 in 5 and 1 in 6. From the top of Peak narrow lanes lead to the main road again, thence to the checking point at Exeter.

TIME-TABLE.

Showing the time, to the nearest minute, of the first motorcycle, the first three-wheeled cyclecar and the last car competitor at various points on the route.

	Motorcycle.	Three-wheeler.	Last man.
Start	Mon. p.m. 8.0	Mon. p.m. 10.3	Mon. p.m. 11.7
Salisbury	11.20	Tues. a.m. 1.23	Tues. a.m. 2.27
Peak Hill	Tues. a.m. 4.50	6.53	7.57
Salcombe Hill	8.53	10.56	noon 12.0
White Sheet	10.23	p.m. 12.26	p.m. 1.30
Staines	p.m. 5.30	7.33	8.37

It is on the return journey that the difficulties really begin. The main route is followed as far as Honiton, where the competitors again turn south, by a different route, however, from that used on the outward journey, so that there is no overlapping. The route takes the competitors up Marlpits Hill (observed, but very easy) and down Hatway Hill to Sidmouth. Then follows the tit-bit of the trial, namely, the ascent of slippery Salcombe, with its maximum gradient of 1 in 5, and, what is far more difficult, the attempted accomplishment of the time limit set by the Club over a measured distance of about half a mile from a standing start. This year the conditions have been altered slightly, and the following table of comparisons showing the average speeds required is interesting. It should be understood, of course, that the M.C.C. has given very careful consideration to the whole question, and it is hoped that

The course is the same as that used last year.

the speeds required will form a fair and by no means impossible test. It would be interesting, however, to see the exact results obtained:—

	1926.	1925.
Cars not exceeding 1,100 c.c.	14 m.p.h.	12 m.p.h.
Cars not exceeding 1,500 c.c.	16 m.p.h.	15 m.p.h.
Three-wheeled cyclecars of any capacity	19½ m.p.h.	18 m.p.h.
Cars exceeding 1,500 c.c. ...	17 m.p.h.	18 m.p.h.

It will be seen that the task of all the light car competitors is harder, whilst the three-wheeled cyclecars share with the 350 c.c. solo motorcyclists the distinction of having to average the highest speed over this section of any vehicles in the trial.

To qualify for a gold medal, competitors will have to fulfil the conditions on Salcombe, and, in addition, they must not be more than 10 minutes late at any place; they must make non-stop ascents of Peak and Marlpits, and ascend White Sheet Hill non-stop from a compulsory stop midway up the gradient.

White Sheet is the final test hill of the run; thereafter the competitors travel by a picturesque route through Dorchester and Blandford to Salisbury, whence they follow the outward route in the reverse direction home to Staines.

It should be particularly noted that the run is not a race; far from it, for competitors are bound down to an average schedule speed of 20 m.p.h. and secret checks are employed to make certain that the riders are not exceeding the 20 m.p.h. average between the official checking points.

Those who wish to watch the competitors at any particular point of the course are referred to the accompanying table, which shows the times of the first motorcyclist, the first three-wheeled cyclecar, and the last car competitor at various interesting points on the route. It should be borne in mind that competitors, both motorcycle and car, start at half-minute intervals. This speeds up the trial somewhat, but even then the procession will take just over three hours to pass any given point.

The entries contain many interesting small cars, not the least of which are two 8.7 h.p. two-cylinder G.N. cyclecars, of presumably fairly ancient vintage, a two-cylinder air-cooled Rover, and no fewer than 21 Morgan three-wheelers.

Complete List of Car and Cyclecar Entries.

CLASS III.

23 THREE-WHEELED CYCLECARS.

246 *H. E. K. Sawtell (Morgan).
247 J. L. Goddard (Morgan).
248 V. J. Hartley (Aero-Morgan).
249 D. S. C. Macaskie (Morgan-J.A.P.).
250 F. A. Boggis (Aero-Morgan).
251 C. J. Turner (Morgan).
252 H. W. Holmes (Aero-Morgan).
253 S. A. McCarthy (Aero-Morgan).
254 D. F. Heybourn (Aero-Morgan).
255 A. T. Pryor (Omega).
256 R. J. Martin (Omega).
257 H. W. Baker (Morgan).
258 H. R. Taylor (Morgan-J.A.P.).
259 B. B. F. Russell (Morgan-J.A.P.).
260 J. S. Thurlby (Morgan).
261 E. A. Marks (Aero-Morgan).
262 R. D. Smith (Morgan-Special).
263 R. A. Martin (Aero-Morgan).
264 E. C. Fernihough (Morgan).
265 A. C. Maskell (Morgan).
266 G. C. Harris (Morgan-J.A.P.).
267 M. W. Stokes (Morgan).
268 H. Beart (Morgan-J.A.P.).

CLASS IV.—107 CARS.

IV (a). (Not exceeding 1,100 c.c. capacity.)

269 *C. B. Moss-Blundell (9.5 h.p. Salmson.)
270 S. H. Collier (10 h.p. Talbot).
271 C. L. Clayton (8.9 h.p. Amilcar).
272 S. Hellen (9.5 h.p. Salmson).
273 P. D. Clegg (8.2 h.p. Sénéchal).
274 G. Anthony (8.2 h.p. Sénéchal).
275 J. V. Hay (8.7 h.p. G.N.).
276 D. Duncan-Smith (8.7 h.p. G.N.).
277 S. J. Clutterbuck (9 h.p. Rover).
278 J. Eddy (7 h.p. Austin).
279 F. B. Baker (9 h.p. Rover).
280 A. Eccles (9 h.p. Rover).
281 H. S. Barton (7 h.p. Austin).
282 F. C. Everett (9 h.p. Fiat).
283 H. J. Lovatt (7 h.p. Rover).
284 H. G. Russell (7 h.p. Jowett).
285 J. Richardson (7 h.p. Jowett).
286 T. L. Carrington (7 h.p. Austin).
287 C. M. C. Turner (8 h.p. Gwynne).
288 A. J. Berry (9.5 h.p. Salmson).
289 T. R. Berry (9.5 h.p. Salmson, Grand Prix).
290 P. A. L. Meyrat (7 h.p. Austin).
291 *L. Martineau (10 Salmson, Grand Prix).
292 G. H. Martineau (10 h.p. Salmson Special).
293 G. H. Symonds (7 h.p. Austin).
294 J. W. Barber (10 h.p. Salmson).
295 C. D. Conradi (9.5 h.p. Salmson).
296 I. J. Higgs (10 h.p. Salmson).
297 S. C. T. Littlewood (10 h.p. Swift).
298 P. H. Shaw (8.3 h.p. Renault).
299 P. A. Watter (10 h.p. Salmson).
300 S. L. Engel (8 h.p. Talbot).
301 G. H. Buckle (8.9 h.p. Amilcar).
302 W. V. Beach (9 h.p. Rover).
303 C. Ford (8 h.p. Rover).
304 D. W. F. Bonham-Carter (7 h.p. Jowett).
305 E. C. Formilli (4.9 h.p. Nomad).
306 A. T. Clark (4.9 h.p. D.F.P.).
307 J. A. Driskell (9.5 h.p. D.F.P.).
308 G. H. Strong (7 h.p. Austin).
309 D. J. C. Prizeman (7 h.p. Austin).
310 R. B. Waters (10 h.p. Salmson).
311 N. R. White (9.5 h.p. Salmson Special).
312 E. J. Kehoe (7 h.p. Austin Cup).
313 O. Clark (8 h.p. Sénéchal).

IV (b). (Not exceeding 1,500 c.c.)

314 *W. E. Bliss (10 h.p. Fiat).
315 F. Broomfield (11.9 h.p. Palladium).
316 H. Jefferis (11.9 h.p. Frazer-Nash).
317 A. G. Gripper (12 h.p. Alvis).
318 G. T. Gamble (12 h.p. Lea-Francis).
319 C. H. Kemp (11.9 h.p. Palladium).
320 W. E. Castello (11.9 h.p. Palladium).
321 W. G. Olivo (10 h.p. E.H.P.).
322 O. H. C. Cornish (11.9 h.p. Frazer-Nash).
323 Richard Twelvetrees (11.9 h.p. Frazer-Nash).
324 W. F. Kendrick (11.9 h.p. Frazer-Nash).
325 G. F. Smith (10.8 h.p. Riley).
326 J. Hobbs (10.8 h.p. Riley).
327 N. Miller (10.8 h.p. Riley).
328 R. A. F. Clark (12 h.p. A.B.C.).
329 J. T. W. Russell (11.9 h.p. Lagonda).
330 *W. Urquhart-Dykes (11.4 h.p. Alvis).
331 E. Hillary (11.9 h.p. Frazer-Nash).
332 F. A. Jaques (11.9 h.p. Frazer-Nash).
333 H. J. Addington (11.9 h.p. Frazer-Nash).
334 R. Fraser (10.8 h.p. Clyno).
335 S. F. A. Watson (10 h.p. Surrey).
336 H. H. S. Keogh (10.8 h.p. Riley).
337 N. A. Taylor (11.4 h.p. Standard).
338 C. W. Gaillifent-Holmes (11.9 h.p. A.C.).
339 C. P. Stevens (12 h.p. Lea-Francis).
340 J. J. Bord-Harrey (12 h.p. Lea-Francis).
341 J. V. Brady (12 h.p. A.B.C.).
342 L. T. E. Clark (10 h.p. Windsor).
343 H. S. Stevens (12 h.p. Lea-Francis).
344 E. S. Hutchence (11.9 h.p. A.C.).

IV (c). (Exceeding 1,500 c.c. capacity.)

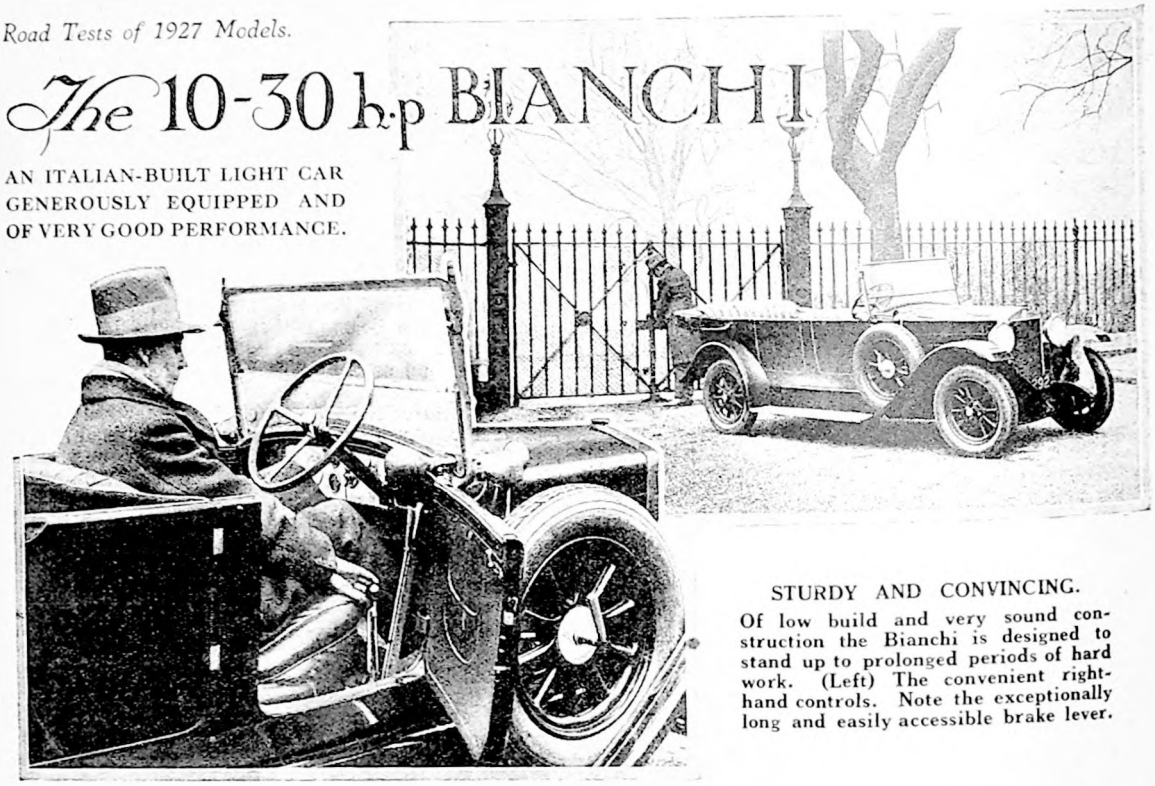
345 *P. W. White (14.4 h.p. Armstrong Siddeley).
346 R. H. White (13.9 h.p. Morris).
347 C. R. B. Chiesman (13.9 h.p. M.G.).
348 W. Cooper (19.8 h.p. Paige-Jewett).
349 N. H. Keep (13.9 h.p. Delage).
350 A. L. Greenhill (15.9 h.p. Berliet).
351 I. D. Spooner (13.3 h.p. Vauxhall).
352 R. C. Webster (14 h.p. Sunbeam).
353 G. L. Jackson (12.5 h.p. Alvis).
354 W. C. Treloggen (11.9 h.p. Riley).
355 F. Clifton (16 h.p. Diatto).
356 S. Walker (15.9 h.p. Bentley).
357 C. G. Fitt (14 h.p. Delage).
358 G. E. Gather (13.9 h.p. M.G.).
359 H. G. Reigate (12.45 h.p. Metallurgique).
360 F. G. Jones (12.1 h.p. Metallurgique).
361 H. Slater (15.9 h.p. Bentley).
362 J. B. Bainbridge (48.4 h.p. Rolls-Royce).
363 *S. C. H. Davis (19.5 h.p. Invicta).
364 V. A. Bruce (16 h.p. A.C.).
365 P. H. Manners (15.7 h.p. A.C.).
366 J. O'Donnell (15.9 h.p. A.C.).
367 C. C. Griffith (11.9 h.p. Morris-Cowley).
368 H. Newton (14 h.p. Standard).
369 L. A. Sandford (13.9 h.p. M.G.).
370 A. W. Wood (11.9 h.p. Morris-Special).
371 C. A. B. Broomhall (12 h.p. Phœnix-Special).
372 A. S. Llewellyn (12 h.p. Alvis).
373 J. S. H. Wilson (11.9 h.p. Morris-Cowley).
374 R. C. Rowland (19 h.p. Austro-Daimler).
375 H. S. Carpenter (12 h.p. Swift).

* Indicates travelling marshal.

Road Tests of 1927 Models.

The 10-30 h.p BIANCHI

AN ITALIAN-BUILT LIGHT CAR GENEROUSLY EQUIPPED AND OF VERY GOOD PERFORMANCE.



STURDY AND CONVINCING.

Of low build and very sound construction the Bianchi is designed to stand up to prolonged periods of hard work. (Left) The convenient right-hand controls. Note the exceptionally long and easily accessible brake lever.

"SOME people buy a motorcar because it is cheap—but a Bianchi is bought because it is good." So runs one of the slogans included in the tastefully-prepared catalogue issued by Bianchi Motors (1926), Ltd., 26, St. James's Street, London, S.W.1, which tells one all about this interesting Italian production.

The slogan certainly fits the case very accurately. At the price of £350 one looks for something rather out of the ordinary in the four-seater open touring light car class, and without equivocation we can say that there is that real solid worth in the Bianchi that one expects.

Generally speaking, the specification follows convention, with the important exception that the gearbox is mounted on the forward end of the torque tube. The engine is of the four-cylinder monobloc type, with a bore and stroke of 64 mm. and 100 mm. (1,300 c.c., tax £11). The maximum brake horse-power developed, it is stated, is 30. Overhead valves, which, by the way, are particularly quiet in action, R.A.G. carburetter, and a very compact arrangement of Marelli magneto and dynamo—the two being coupled up so that they appear to form a unit—are features of interest, and one must not forget the well-balanced, three-bearing crankshaft. The pistons are of aluminium and are exceptionally light.

Four Useful Ratios.

The clutch is of the single-plate type, whilst the gearbox, controlled by a lever on the right, gives four speeds, the ratios being 5.25, 8.75, 13 and 18.25 to 1. The final drive is of the conventional pattern with differential. So much for a brief review of the specification, which shows that there is everything necessary for a lively performance, particularly with regard to acceleration.

Those who have had experience of British and foreign cars will agree that there is a noticeable difference in the feel of them; thus, with one's eyes shut, one could tell a British light car from one of Italian or French origin. The Bianchi is characteristically Italian in both "feel" and performance.

Comfort—the First Consideration.

The manufacturers have made a determined effort to give the owner-driver all those little refinements for which he has been agitating of late years. The very convenient right-hand control and the very long brake lever, the grip of which is on a level with the facia board, are cases in point, and the control of the car is made really delightful by this excellent arrangement. The seating position is comfortable, and there is plenty of room for passengers, both as regards width and leg room.

The clutch is smooth and certain in action, and the operation of the gearbox is simplicity itself. This is surprising really, in view of the fact that there are fairly big "gaps" between the gear ratios. For hilly country the car commends itself for two important reasons; the first is its ability to pull very powerfully on top gear, and the second is the rapidity with which one can work the lever through the four gears on a stiffish up-gradient.

From a standstill on a gradient of, say, 1 in 5, a certain get-away can be made on the bottom gear of 18.25 and progressive acceleration obtained until one is speeding rapidly upward. For traffic work, the car is certainly one of the "nippiest" we have handled.

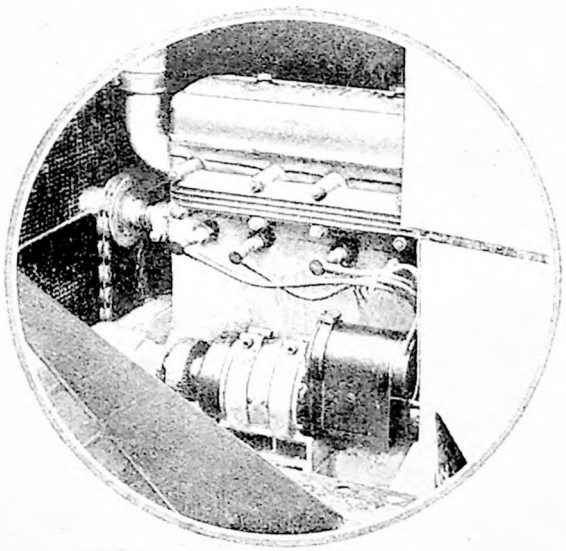
One of the most noteworthy features of the car is the four-wheel braking system. The pedal acts on the four wheels, the lever on the rear wheels

only, and the application of the former set brings the car to a standstill not only in a very short distance but with velvety smoothness. The hand-brake is also surprisingly powerful. The size of the brake drums point their own moral, especially to those manufacturers of small cars who are inclined to rely on comparatively small drums.

Although no shock absorbers were fitted to the car which we tested, we found the suspension all that could be desired. Full semi-elliptics of unusual length are used both at the front and the back, and the lay-out is such that whilst it smooths out road shocks, rebound is conspicuous by its absence.

Easy Steering at All Speeds.

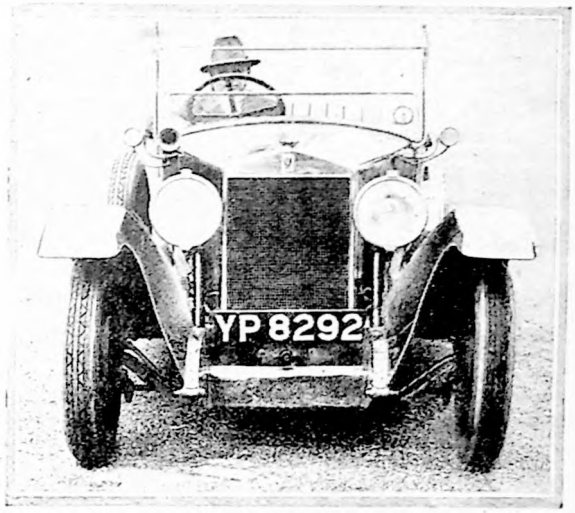
A feature of interest is that with the 715 mm. by 115 mm. Pirelli balloon tyres, the steering is very light at low speeds without being erratic when the car is slipping along at 45 m.p.h. This is very good, for it is seldom that easily-controlled steering at high speeds goes hand-in-hand with very light steering at low speeds.



The near side of the very neat o.h.v. engine, showing the close-coupled dynamo and magneto.

There are several little points in the Bianchi which will appeal to the owner-driver. To begin with the auxiliary valances at the front of the car are worth noting. They entirely enclose the inner sides of the dumbirons and springs and form an apron between them, giving the front of the vehicle a really neat and mud-proof appearance.

Next there is the very handy tool locker on the near-side running board; it is part of the coach-work and not an addition, a point which tells in favour of its strength and convenience. The spare wheel is carried on the offside and it sinks partly



Ample mudguarding—clearly revealed in this photo—is a feature of the Bianchi. The line of vision is excellent and the seating accommodation very comfortable.

into the wing so that it can be carried well forward. It is held in place by a sturdy screwed handle, which looks well and does away with the necessity for using a spanner.

The instruments are mounted on a white celluloid facia board, which is not only smart, but is easy to keep clean. Like the majority of Italian cars, a combined ignition switch and lock is provided.

A Thoroughly Dependable Light Car.

For a new car, the speeds obtained were not disappointing, 50 m.p.h. on top appearing to be within easy reach, but we preferred to stress the car no farther than 45 m.p.h. On third 30 m.p.h. was about the comfortable maximum.

When properly run in the 10-30 h.p. Bianchi is said to be capable of 55 m.p.h., with a correspondingly good performance on the lower gears. We find it very easy to credit this, and we have no hesitation in recommending the make to those connoisseurs who fancy dependable light cars of foreign marque.

To See the Level.

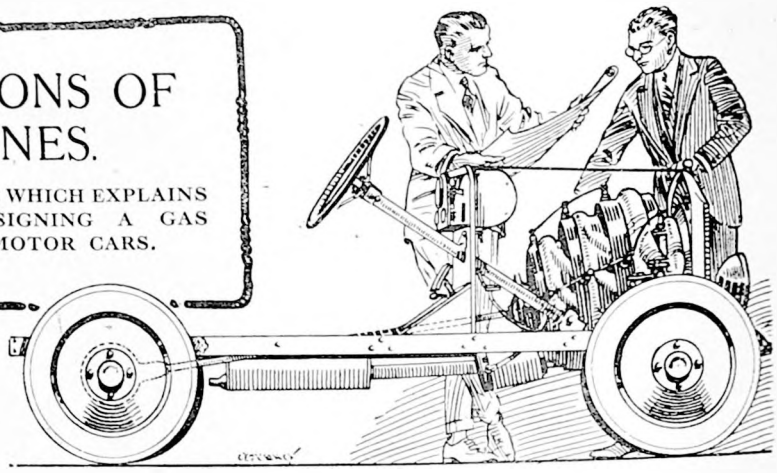
MANY years ago, when Lanchester produced his tiller-steered car, which in its day was streets ahead of any of its competitors, he provided in the front of the radiator a little circular glass window through which the water level could be seen. This idea is retained on Lanchester cars to the present day, but I have not seen it copied by any other maker.

A little fitting of this kind would be very useful on many light cars, and so inexpensive that one is surprised that the radiator manufacturers have not taken it up. In this connection, I wonder whether it is the experience of other small car owners that the water level in the radiator of a great many small cars needs examining every day, and in many cases a quart or so has to be added? This is not lost by evaporation, but by spilling through the overflow pipe. With a window in the front of the radiator and a baffle arranged to stop spilling, we should be saved an annoying little daily duty which I am sure others beside myself must resent.

FOCUS.

THE LIMITATIONS OF GAS TURBINES.

AN AUTHORITATIVE ARTICLE WHICH EXPLAINS THE DIFFICULTIES OF DESIGNING A GAS TURBINE FOR USE IN MOTOR CARS.



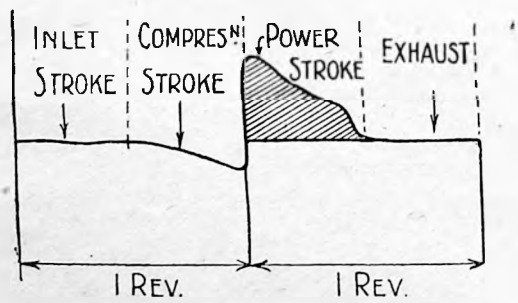
By J. HARRISON, A.M.I.Mech.E., A.M.I.A.E.

IN one of his early works the late Mr. Zangwill created a half-witted inventor who dabbled in the fourth dimension, but Zangwill lived long enough to see his brilliant co-religionist Einstein bring "this half-wit conception" into the realms of practical mathematics. In a similar way we may see the derided gas turbine materialize within a few years. It is somewhat doubtful, however, if it will ever figure in a motorcar.

Inventors are already actively engaged in solving the problems of transmitting electric power by wireless, and it is just possible that electric cars, collecting their power through aerials, will have driven internal-combustion engines off the road before the gas turbine is sufficiently developed for road-transport purposes. After all, it is only a few years since the petrol engine drove the steam car into obsolescence.

I cannot help thinking that the small internal-combustion engine, with its obvious disadvantages, must in time give place to some large generator which will supply all and sundry with energy. Nevertheless, as I previously stated, the subject of gas turbines is of interest, for often comparatively straightforward developments are held up for years by external causes, such as politics, vested interests and problems related to the defence of the realm, and the gas turbine may enjoy some popularity while the larger developments are breaking down these barriers.

Before going farther, I would have readers understand that I have never seen a successful gas turbine; nor, in fact, have more than a mere handful of engineers in this country. My knowledge of the subject has been

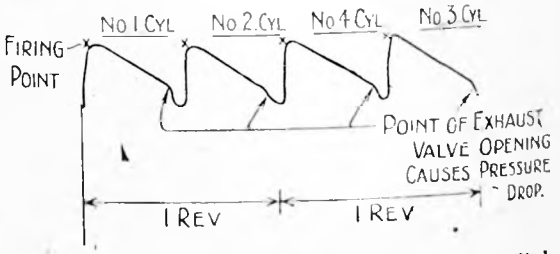


This graph shows the intermittent impulses of a single-cylinder engine. A power stroke occurs only once in every two revolutions.

gleaned purely from the papers that have been presented within the past few years to the scientific institutions and from the references to it that have been made from time to time in the German technical Press.

Before entering upon the subject of gas turbines, I would like to offer a few thoughts upon the existing type of motorcar engine, and upon the Diesel engine and the steam turbine in order to make clearer to the lay reader the comments which follow.

The type of engine used in a motorcar of to-day is what engineers know as a high-speed, reciprocating, constant volume, four-stroke internal-combustion engine. I will assume that my readers are acquainted with its general principles, its appearance and conventional arrangement. In its simplest form, such as used on many motorcycles, it has a single cylinder. Above its piston, once every second revolution, an explosion takes place. If we analyse the motion of a single-cylinder motorcycle we find that the power impulse is given to it after the manner of the accompanying diagram. Obviously, this progression is, to say the least, very jerky, and designers of cars prefer to use a four-cylinder engine, so that by arranging the cylinders to fire in sequence they obtain an "explosion" on every half-revolution, resulting in an impulse diagram like that depicted below.



By using four cylinders four power impulses are applied to the crankshaft in two revolutions, as explained in the text.

Whilst this is a considerable improvement upon the single-cylinder engine it is by no means perfect, for the pressure in the cylinder on the so-called "explosion" stroke is high at the beginning of the stroke and drops to zero at the end of it. This results in the "four-impulse" diagram shown.

In an endeavour to obtain yet smoother running, engineers have concentrated upon the design of engines with more cylinders, and even among light cars both six and eight-cylinder engines have been seen, while in the large-car field the Daimler Co. have introduced a 12-cylinder engine to obtain the desired result. The multiplication of cylinders to 8 and 12, while giving smooth running, does so at an enormous cost and with considerable complication.

The uneven turning movement of the present type of car engine involves the use of that heavy, undesirable piece of metal the flywheel, and the engine, by virtue of its reciprocating parts, is subject to a number of ills from which the purely rotative engine is free.

The pistons, running up and down at speeds which vary every stroke from about 2,000 ft. per sec. to zero, generate forces of such a gigantic nature that the

engine bearings and crankcase arms are designed to resist these stresses rather than those imposed by the power developed. These forces give rise to vibrations unknown in the purely rotative engine, and these vibrations can be damped out only by being absorbed in the comparatively heavy parts of the engine.

The steam turbine has the distinction of being both the oldest and one of the newest forms of prime mover. Hero, of Alexandria, who flourished probably about A.D. 50, built a machine of the type now known as the reaction turbine. It consisted of a hollow ball freely mounted on two steam tubes. Out of the ball came two L-shaped pipes, from which issued the steam. The reaction of the steam on the atmosphere caused the ball to rotate in a similar manner to that observable in the modern lawn sprinkler, where the pressure of water is used to rotate the four sprinkler arms.

In 1898 Dr. C. G. P. de Laval invented an impulse turbine, which was the forerunner of the modern type. In this, a vaned wheel is caused to rotate at high speed by the steam issuing from a number of nozzles placed at an angle to the blades. A glance at one of the accompanying diagrams reveals the beautiful simplicity of the design, and makes clear why a turbine is such a smooth-running and vibrationless machine. There are no reciprocating parts, no valves, cams or out-of-balance forces. The 5 h.p. de Laval runs smoothly and silently at 30,000 revs. per minute. It is smaller and weighs

A model of the reaction turbine built by Hero, of Alexandria, in A.D. 50. Present-day turbines are developments of Hero's invention, but very different in appearance and efficiency.

less than a light car starter motor, and, incidentally, its main shaft is of about the same diameter as an ordinary lead pencil.

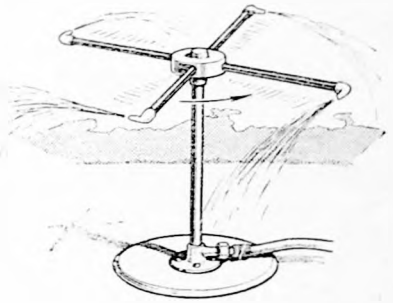
At the present time there is under test by the L.M. and S. Railway a steam-turbine locomotive the turbine of which develops 2,000 h.p. at 10,000 r.p.m., which is equivalent to a track speed of 70 m.p.h. In view of the low pressures used in a steam engine as compared with those generated in the cylinders of an internal-combustion engine, the high speed, small size and light weight of a steam turbine gives us an insight into how very tiny the powerful, silent, sweet-running internal-combustion turbine of the future will be.

The invention of the steam turbine followed so closely by that of the internal-combustion engine set inventors thinking how they could evolve an internal-combustion turbine. Many tried, and a number of machines were made with varying success. The chief difficulty was one of finding suitable materials, and in this connection it must not be forgotten that the efficiency and reliability of modern motorcars have been made possible only by the activities of metallurgists.

Sixty years ago, to build a motorcar would have been an impossible achievement, for aluminium was poor in quality and so rare as to form the metal for expensive jewellery. Aluminium and steel alloys were unknown. Even so recently as ten years ago difficulties were experienced in making high-speed engines because of the lack of suitable steels for valves and suitable aluminium for pistons.

We will now return to the turbine. In an ordinary engine the temperature of the gases in the cylinder just after the point of combustion exceeds the melting-point of cast-iron, and a car engine is saved from melting only by the fact that this temperature does not exist for more than 1-10th of the cycle of operations. The inlet stroke fills the cylinder with an almost ice-cold gas; the compression raises the temperature a little, then comes the red-hot blast of the burning, followed almost instantly by the cooler exhaust stroke and the cold inlet stroke. Conditions in a gas turbine are, however, different. For the whole time the turbine wheel is subjected to the fiery blast. It has never a moment of respite and no cooling.

High-tensile steels drop in strength almost to zero when they are white-hot, but the high rotational speed of the turbine generates a centrifugal force which is



A modern adaptation of Hero's turbine is to be seen in a lawn sprinkler, which is governed by the same laws of reaction.

powerful enough to burst any but the strongest wheel. To reduce the temperature some inventors tried injecting water into the burning gas. This reduced the temperature considerably, and, in addition, generated steam, which materially increased the power output of the machine.

Unfortunately, however, most fuels contain traces of sulphur, which the steam turns into sulphuric acid. Even stainless steel, of which so much was hoped, wilted before the acid blast. Erosion caused by the high-speed swirling of the hot gas eats away the blades just as the swirling of the sea grinds rocks to powdery sand. Distortion, not unknown on car engines, presents another problem, and all the time the tugging of centrifugal force on the blading tends to burst the wheels. Further difficulties are added by the fact that the rotary compressors which are needed to take the place of the compression stroke are very inefficient, and even where successful gas turbines have been evolved the fuel consumption is very high.

The Most Promising Types.

I do not propose to bore the reader with a list of the internal-combustion turbines that have been made. The Patent Office files reveal the fact that many hundred patents have been taken out for such machines, but even to-day the number of successful inventors could be counted on the fingers of one hand. I will, nevertheless, give brief descriptions of the most promising types, many of which, however, in the present state are entirely unsuitable for road transport, being designed with a view to use in ship propulsion or for the generation of electricity on a large scale.

In 1900 Lemale and Armengaud started their experiments with a converted de Laval steam turbine. They continued for many years and ultimately evolved a fairly satisfactory machine. As, however, the fuel consumption was in the neighbourhood of 3.9 lb. of petrol per horse-power hour as against the .5 lb. per h.p. hour of the best petrol engines they met with no commercial success and, unfortunately, died before they were able to bring their ideas to fruition.

In the final form of their engine a rotary compressor was used to pump air and petrol vapour into a combustion chamber, where it was ignited by an incandescent platinum wire. The gases were then expanded slightly in a second combustion chamber to reduce both pressure and temperature. They were then passed into de Laval-type nozzles, from which they drove the

turbine wheel after the manner shown in the drawing of the de Laval steam turbine. The first part of the combustion chamber was lined with carborundum and sand to protect the metal from the burning gas. The second part was surrounded by a water jacket to cool it, and a jet of water was sprayed into the combustion chamber to give additional cooling and to cause high-pressure steam to mix with the products of combustion. The wheel was hollow and water-cooled, as were the blades.

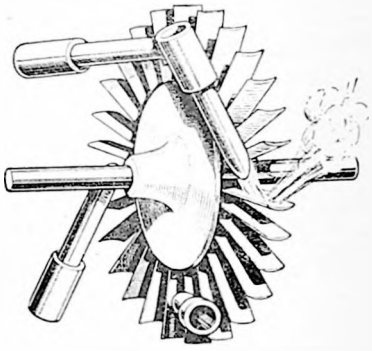
The greatest of the internal-combustion turbine inventors is undoubtedly Dr. Holzwarth, who, in the face of difficulties that would have crushed a weaker man, has brought his machine to commercial success and its efficiency to a standard where it can compete with a steam turbine on a cost basis.

Holzwarth started his experiments in Mannheim in 1910 with a vertical shaft turbine. This was fitted at its base with 10 combustion chambers. Each of these had the usual type of inlet valve and a sparking plug operated by a Bosch magneto. A semi-automatic nozzle-valve separated the combustion chambers from the wheel case and a rotary compressor fed each combustion chamber with compressed mixture. This was fired by the sparking plug in the usual way and the pressure rise opened the nozzle-valve and allowed the gas to escape down the nozzles on to the wheel blades.

Section of a de Laval turbine nozzle. The outlet overlaps two or more blades.

As the pressure fell the valve gradually closed, but it was held partially open to allow the compressed scavenging air to enter the combustion chamber prior to the charge. Very nearly every conceivable fuel, including even powdered coal, was tried, but despite this the machine never developed more than 160 h.p. of the rated 1,000 h.p. When, however, the number of combustion chambers was reduced from ten to three the power fell only a very little, proving that interference took place between the combustion chambers.

In 1914 the inventor built an improved machine, but the war put a stop to his experiments. In 1918 he produced his first really successful turbine. This involved an increase in explosion pressures from 75 lb. to 200 lb., special new metal for the blades, and entirely new constructional features; nevertheless there were the same principles of combustion and usage of the gas.



This diagram depicts a de Laval single-stage impulse turbine wheel and nozzle arrangement with casing removed.

This machine, however, made use of a principle which was destined to have a far-reaching effect upon every branch of internal-combustion engine design. The cooling jackets and silencer were used to generate the steam which was the motive power of the compressors. In other words, the inventor used the heat (which we waste in our radiators) to compress the gas. This resulted in enormous economies and an order for a 5,000 kilowatt machine was given by the Muldenstein power station. The success of this brought orders from the Prussian State Railway for a number of these turbines.

Next week I propose to deal with the subject of turbines, with special reference to the utilization of the waste heat of a motorcar engine.

DO WE WANT SPECIAL MOTOR ROADS?

A REPORT by Mr. Rees Jeffreys, submitted to the International Council of the Roads Improvement Association and the Committee of the Royal Automobile Club, concerns the lessons taught by the experiences of Italian officials with special motor roads.

Mr. Jeffreys recently attended the fifth International Road Congress at Milan and also obtained first-hand information by visiting the famous Italian "Autostrade." At the conclusion of one of the discussions a resolution—not on the official agenda—was accepted by the chair and carried with enthusiasm by the votes of the Continental delegations. It expressed the hope that special motor roads would be built connecting the capital cities and the principal resorts of Continental Europe. The matter was considered by the British Committee of which Mr. Jeffreys was a member, but, after careful consideration, that committee decided to abstain from voting on the conclusions which had been presented. It would appear, however, that a less comprehensive scheme and one confined to individual countries would meet with the blessing of the committee, for at a later stage in his report the writer says:—

"I see no objection in principle, if the motoring community desire it, why loans should not be raised on the security of the Road Fund to build special motor roads reserved entirely for motor vehicles."

It may be mentioned here that the Italian idea, as conceived and executed in that country, corresponds to the usual conception of a railway—that is, something entirely fenced off from adjoining land and reserved exclusively for a special class of traffic.

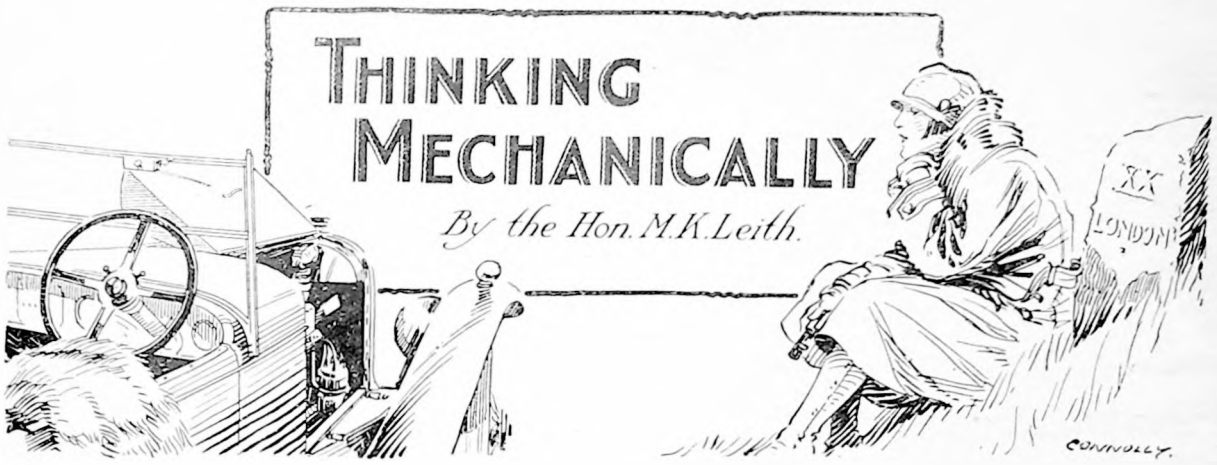
The crux of the whole question, judging by Mr. Jeffreys's report, is whether there is really any urgent necessity in this country for roads like the Autostrade, and whether the case would not be met better by setting our existing roads in order and then considering special roads.

Mr. Jeffreys goes very fully into problems of ordinary road usage. He mentions the difficult position in which railway companies are now said to find themselves and, in his summary of recommendations, he asks that the road interests should seek a conference with the railway interests and negotiate a policy of co-operation; that loans be raised on the security of the Road Fund to finance the cost of new roads and new footpaths; that part of the money so raised shall be applied to building new roads exclusively reserved for motor traffic and to purchasing in suitable cases non-paying branch lines from railway companies and converting them into roads. The last-named is a very interesting proposition.

He also recommends that the rule of the road embodied in Section 78 of the Highways Act of 1835 be reconsidered and amended so as to provide that all vehicles shall keep to the left-hand *edge* of the road except when required to pull out for safety or for the purpose of overtaking.

THINKING MECHANICALLY

By the Hon. M. K. Leith.



Is the ability to do roadside repairs and to carry out minor overhauls a heaven-sent gift or can it be acquired? Our contributor believes, and declares, that it can.

MECHANICAL sense, or, rather, common sense, does not, even in this very mechanical age, seem to be a very usual attribute of the average, non-technical individual. Since, however, most of us aspire to become motorists, and all of us have to make use of numerous mechanical contrivances, such as telephones, motor mowers, and even the common bicycle or domestic sewing machine, the lamentable ignorance of even quite intelligent people on such subjects is surprising, and must sometimes be exasperating to the overworked mechanic called out frequently to deal with entirely imaginary causes of breakdown of such machines, owing to some misuse or stupidity on the part of their owners.

One lady, brightly conversational, said to me one winter's day, knowing that I was in the motor trade: "Don't you find it very difficult to keep the fires burning in your car these cold days?"—while another lady of exceptional intelligence and no small business ability had a most heated argument with me the other day because she was firmly persuaded that what she heard down the telephone was my voice and not a mechanical reproduction, and I do not think she is yet convinced!

One day a would-be motorist was watching me with the floorboards up greasing my car. She gazed down thoughtfully for some minutes on what seemed to her a hopeless tangle of pipes, rods and other devices with no apparent raison d'être. "Mechanical people," she said, "are wonderful. How *do* you carry all that in your head? For instance, what's that for?" She pointed to a copper pipe hiding itself along the angle of the frame.

Trace It Out.

I had spent some hours trying to instruct her in the layout of a chassis. A remark of this kind from an apparently intelligent pupil hurt my pride. "Madame," I said, "I haven't the slightest idea, but you will find out for me. It it quite apparent to us both that it is a pipe. Now pipes usually carry something liquid; also they come from somewhere and they go somewhere. If you will find out where it comes from and where it goes to I think you will probably be able to tell me what it is for."

My pupil was enthusiastic. She fetched an old coat and a rug and got under the car. Some minutes later she reappeared, dusty, greasy, but triumphant. "It seems to come from the petrol tank, and it comes up here, and it goes into the carburetter. It must be the petrol pipe." "Madame," I replied, "if you will apply the same simple method of deduction to your other problems I have absolutely no doubt that they will all disappear."

A few days later I took her out for driving instruction on a different car. Greatly dismayed, she exclaimed, "Oh! what *are* all these little gadgets? They are all quite different from the ones on the other car." "Yes," I replied, "but in all probability they are for the same purpose. Will you open the bonnet and see if you can find out?"

After some minutes the throttle and ignition levers were traced, likewise the horn button and dash ventilator. Remained only a simple push-button unaccounted for. "This must be the switch, but," said she, "which is on and which is off?"

First Principles.

"Don't you think that if you were on a desert island with this car you could solve even that problem?" I remarked. Used to my sarcasm, she thought a little, then replied: "Yes, I would use the starter first with it out, then with it in." "Good!" I replied. "You are coming on!"

Unmechanically minded as she was, that pupil was a young lady of brains, and, if I taught her nothing else, I did eventually teach her how to use them.

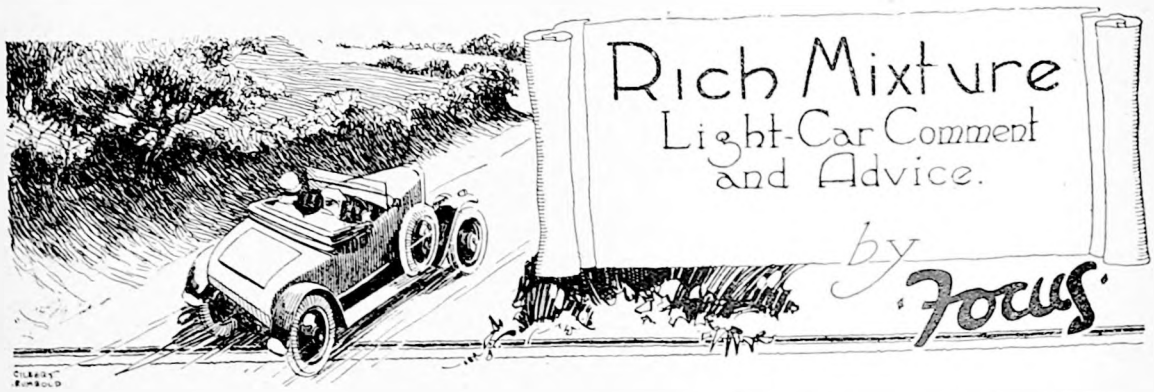
During the war she took up driving professionally, and since then has taught driving from time to time with some measure of success.

I came across a pupil of hers the other day, and from what he told me I gathered that she was using the methods of her old instructor—sarcasm and all!

I wonder how many people realize that a mechanical sense consists very largely of a mechanical ear. A good mechanic knows the sound of every part of the engine, and will pick out of a medley of noises, louder but less important, the tiny tap with which a worn gudgeon-pin bush will sometimes give warning of its approach.

He can judge the amount of wear in the gearbox or back axle by the sound of the running and change gear by the feel and sound of the engine without glancing at the speedometer and long before its noisy labourings are painfully obvious to all and sundry.

Use what mechanical knowledge you have with method and develop a "good ear." Like hands on a horse, it may be born and not made, but some intelligence and a pair of ears were given to us all, and those who aspire to being successful motorists must learn to use them both.



Greetings!

HERE'S wishing all my readers a right merry Christmas and the best of luck in the New Year. It really does not seem more than a few weeks ago that I was penning a similar paragraph last year. The older we get the faster the years fly by. I must be getting very old indeed.

But that is neither here nor there. Christmas is round again, we all have three whole days to ourselves and we all hope that the weather will allow us to make the most of them. For my own part, the lure of the London-Exeter has not yet released me from its hold. For as far back as I can remember it has been a wet run. Perhaps this year a bright, clear frosty night will break the sequence.

M.C.C. Die-hards.

IT is strange the hold which this winter classic has upon its supporters. Year after year I look through the programme so soon as it arrives from the printers, and there, sure enough, are the same old names. Last year I remember quite half-a-dozen of those who figure in this year's programme (I was one of them myself) declaring that it was to be the last occasion they would be such mugs as to run in a 24-hour event in winter. What, I wonder, is the fascination that compels one to continue?

It certainly does not apply to the London-Edinburgh run, which is held at an ideal time of year, for it is only a small handful of the die-hards who regularly take part in the M.C.C.'s big Whitsun classic—the large majority each year being newcomers to long-distance events.

De Mortuis.

IT is a curious fact that, of three firms in the motor industry which have fallen on evil days this autumn, two should bear names which became famous solely in connection with genuine light cars, and that failure did not come until these firms attempted to compete in the heavy-car market. These two prospered exceedingly from 1914 to 1924, one making an enviable reputation with a sturdy, reliable and apparently everlasting two-seater, the second building a bus with very popular characteristics. And then, a year or two ago, both began to woo the medium-powered car, and from that moment the decline began. I cannot help feeling that if these firms had been loyal to the small cars which made their names the shareholders would still be looking forward, with perfect justification, to fat dividends.

Let other manufacturers beware of developing their light cars to the point where an engine of less than 1,500 c.c. is unable to propel it efficiently. The buying public knows that the true light car is the true economy vehicle, and when a manufacturer lets it be seen that his light car, although still produced, is no longer his chief enthusiasm he finds all too often that the substance of his business has departed and there is nothing left but the shadow.

Roadside Scenes.

1.—The Zealous Constable.

ONLY the lower portion of his body and his legs were visible as he leaned over the parapet of the canal bridge gazing at a pair of barges in the lock below. The bridge was the usual type—hump-backed, narrow, with barely room for two small cars abreast, and his legs (for he was a large man even as policemen go) still further reduced the available roadway. As I approach, a three-ton lorry appears suddenly on the bridge; I brake hard and let it pass, and then, sounding my horn lest another be following, I take my turn to climb the steep pitch. The policeman, instead of accepting my hoot as a request for a signal that the road is clear, glances over his shoulder, scowls at me—presumably for making a noise—and without more ado returns to his study of inland water transport!

2.—Unintentional Jay-walking.

A ONE-WAY street not a hundred miles from Piccadilly Circus, London. A suburban matron and her brood up in the West End to see the Christmas sights in the shops. They have reached the central refuge and are about to continue across the road when a limousine sweeps past. The party halts and draws back. "Coo—the beast!" says materfamilias severely. "On his wrong side and all!"

A case this, it seems to me, where perfectly excusable ignorance might cause accidents. The Londoner knows one-way places, the car driver is sufficiently alert on the streets to spot them, but home-keeping folk from the outer suburbs have not yet appreciated the new conditions. Why not a notice-board on the refuges at such points with the legend:—"One-way traffic. Look to your right."

Bliss.

IN a world where so many people seem to remain obstinately devoid of mechanical knowledge it is surprising that one so seldom meets the really absolute novice; but I fancy I came near to meeting him a few evenings ago. A friend asked my assistance on behalf of a neighbour of his who had spent an hour trying to start up his car.

I duly went to his garage and there found the owner—a young man who graduated to motoring 12 months ago—extracting the accumulator. "It's all right!" he cried gleefully, "I know what's the matter. The lamps will not light, so, of course, there's no current for the engine!" No, it was not coil ignition. And all that was amiss was that the rocker arm on the contact-breaker had stuck up hard.

Need for Foolproofness.

THIS owner reminded me of a man who, one day in the summer, asked me for the loan of a jack with which to replace a wheel. His own jack, he said, would not work. On going to investigate, I found that his jack—supplied with a big expensive car—was of the kind in which the pinions and handle are set at an angle in order to obviate stooping, and he, at great inconvenience, had been trying to operate it horizontally, thus failing to bring the teeth properly into mesh. It seems incredible that a man should be unable to get the "hang" of such a simple piece of mechanism, but does it not show how needful it is for every part of a car to-day to be absolutely foolproof?

At the Cross-roads.

I HAPPENED to spend a recent week-end at a cottage which stands exactly at the junction of two busy roads, and from my bedroom window I had a clear view both ways. The Sunday being wet, I passed a very interesting hour or two seated at the window and studying methods of driving at this rather dangerous spot. I was most struck by the number of accidents which are nearly caused at cross-roads through drivers simultaneously slowing down! This seems a paradox, yet from my point of vantage I saw cars approaching the road junction at right angles to each other, decelerate some distance away to approximately the same speed, and arrive at the corner with scarcely a yard separating their bonnets.

In several cases if the car on the main road had maintained its speed it would have been past the junction some time before the car on the less busy road had reached it. Yet, by observing caution, the driver actually increased the possibility of collision!

It was easy to see what a boon the classification of all roads into main and secondary with priority of way on the former would be at all such places, but apparently there is a lot of legal lumber to be cleared away before such a common-sense system could be adopted.

Owners' Experiences.

AN interesting fact that emerges from the "Owners' Experience" feature which has been appearing in the correspondence pages is the consistency of performance of standard cars in the

IN YORKSHIRE.

(Above) Is this the smallest church? It is on the Guisborough-Saltburn road and measures 14 ft. by 17 ft. (Left) The old gatehouse adjoining Easby Abbey, near Richmond. It was built in 1152.

hands of average drivers. This is a fine tribute to reliability of material and the care manufacturers take in assembling and testing their products. It is easy to see, though, that occasionally a C3 machine gets through in the A1 category—to give trouble and disappointment to subsequent owners. I suspect that indifferent performance—at which some readers hint—may be due to faulty carburetter adjustment. This never was a strong point with testers, especially in works turning out large quantities of moderately priced cars.

The 40 m.p.g. Fetish.

TO-DAY, with so many new owners taking to the road equipped with little or no mechanical knowledge, it cannot be expected that they can tinker about with the carburetter to obtain the best results, and, as manufacturers are satisfied at achieving a reasonable compromise between power and economy, it follows that many an honest engine is reviled when actually it is being either starved or overfed.

In this connection I am tempted to wonder whether in the matter of petrol consumption owners are not inclined to fall into the feminine one-and-eleven-three fetish. There seems to be a subtle fascination about 40 m.p.g. Forty-one miles per gallon is hailed with delight: thirty-nine viewed with dismay. Yet the car may be giving of its best at the lower figure, and the extra cost over an average season's mileage is negligible.

Front-wheel Skids.

I HAVE heard of a number of front-wheel skids recently—some of a disastrous nature—and in one case a cyclist was killed through a car refusing to answer the helm when the wheels were locked over. It would be interesting to know how far these are true front-wheel skids: that is, skids caused by the wheels losing their grip in grease. It may be that in the instances reported inaccurate adjustment of the front brakes was to blame.

On a borrowed car which I was driving a short time ago I found that sharp pressure on the brake pedal applied the near-side front brake first, thus causing a nasty swerve, which, on grease, might easily have reproduced the appearance of a front-wheel skid. It cannot be too strongly emphasized that, while front-wheel brakes are a boon, they are also a responsibility, and neglect may involve the owner in trouble.

Is That So?

IN a general article on battery maintenance, written by a "motor noter" for a lay Press weekly I discovered the following gem of wisdom: "It is perfectly easy to see when batteries are running down; there is a loss of power in the car, hills are not climbed with that same vigour and quickness that they should."

Both the battery and magneto are electrical, but how the one affects the other is really rather puzzling.

ITS FIRST VISIT. — The first Austin to visit the Sphinx, this sports model is the property of Mr. Crane Williams, the Austin Motor Company's Far East representative. He drove it himself and is seen at the wheel.

B6

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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 FOURTEEN 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.

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Topics of the Day

The Competition Ban.

WE feel justified in referring once again to the J. K. S published pointed c membere months' experience of the competition tions would be of advantage. He mentioned certain events which he thought worthy of receiving trade support, and these included an English or Scottish Six-days' trial and the Motor Cycling Club's London-Land's End trial.

As Mr. Starley pointed out in his letter, if these events are to include a trade entry they must be officially sanctioned by the Society of Motor Manufacturers and Traders, and it is, therefore, now in the hands of the light car manufacturers who are on the committee of the society to carry the day for a resumption of competitions on a limited and judicious scale, or to keep their silence and allow the ban to continue.

We feel we are voicing the views of the majority of actual and potential small car owners when we ask the people concerned to raise the question of the ban being lifted. To the best of our knowledge no serious effort has been made to thrash out the pros and cons of it since its original imposition. The time has come to rouse the sleeping dogs from their slumber.

The desire for a resumption of competitions is not confined to London or the Midlands. At a banquet given in Edinburgh to celebrate the opening of the Scottish Motor Show, a speaker raised the subject, and his remarks met with the support of a considerable body of prominent manufacturers and agents.

Mechanical Knowledge.

IT is not given to every owner-driver to have the skill and knowledge of a trained mechanic, nevertheless, it behoves him to find out all he can about his car if he is to run it with a maximum of economy and enjoyment. Apart from helping him to carry out running repairs a modicum of mechanical knowledge is of great assistance to an owner when he has occasion to take his car to a garage for professional attention.

To be able to say exactly what needs doing, or to be able to listen intelligently to the mechanic's diagnosis of the trouble and, if necessary, to argue with him his own ground e that the owner will be treated with a certain amount of respect by mechanic and garage proprietor alike. Fortunately for all motorists, the "automobile engineers" who sprang up like mushrooms soon after the war and did a large amount of harm to the industry because they had no real qualifications entitling them to call themselves engineers, and because, incidentally, some of them had no consciences either, have now given up the struggle and their places have been largely taken by men who know their work. In addition, the service organizations of the manufacturers in most cases leave little to be desired, so that nowadays people to whom machinery as such is anathema can buy a car secure in the knowledge that wherever they may be they will be able to find a repairer who is competent to carry out any work which may be necessary. Nevertheless, the man who understands his car scores heavily over the man who prefers to remain ignorant.

Horse Sense!

IT is becoming increasingly common at night to overtake, in the vicinity of railway goods depots, a led horse with an oil lamp, showing a red light to the rear, slung from the harness on the offside. It is also increasingly common to overtake cyclists in the same areas who are not only without a tail light, but are devoid of anything that would tend to show them up in the sidelights of an overtaking car. To make matters worse, the machines and the clothing of the riders are usually dark in colour. Now a horse is a much bulkier user of the road than a cyclist, and even when the animal is carrying no light, it can be picked out in good time; but a cyclist cannot be seen so easily.

We commend the action of railway companies whereby led horses must be illuminated after dark, and we confess to utter bewilderment concerning the mentality of human beings who are so entirely regardless of their own safety—to say nothing of the safety of others—as to fail to take even the most elementary precautions against their not being seen by other road users. There *is* one safeguard which motorists can adopt: it is to switch on their headlamps, but is it reasonable to demand that the majority shall be inconvenienced for the safety of the selfish few?

CONVERTING MORGAN REAR-WHEEL BRAKES—A COMPENSATED SYSTEM—AIR-COOLING ADVANTAGES—A USEFUL COLD-WEATHER TIP.

OWNERS of Morgans fitted with front-wheel brakes do not, as a rule, find much use for the hand-operated rear-wheel brake. It is a pity, however, to carry a perfectly good brake assembly and not take advantage of it. Realizing this, a friend of mine has effected a very ingenious conversion on his 1926 Aero model, which I will endeavour to describe.

* * *

The idea consists in coupling together the two rear-wheel brakes by means of a whiffle-tree and operating them by the pedal. The normal foot-brake arrangement includes a swinging lever attached to one of the two angle-steel cross-members supporting the bevel box. For the conversion a similar lever must be made up and attached to the opposite side of the cross-member.

The lower ends of the two levers are connected by a cross-piece loosely bolted or pinned to them, so that there is a certain amount of free movement. The off-side vertical lever is already connected to the brake band by means of a flat steel strip. The near-side strip can be bent as required and used to connect the new lever to the erstwhile hand-brake band, from which the original hand lever must be disconnected. Finally, the existing rod from the pedal is bent slightly and connected to the centre of the cross-bar or whiffle-tree.

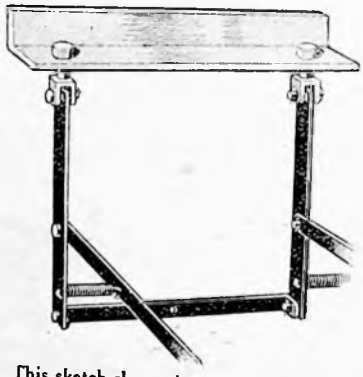
* * *

A glance at the accompanying illustration should make the general arrangement easily understood, and any Morgan owner accustomed to carrying out his own repairs will have no difficulty in making and fitting the few simple parts required.

In use the arrangement is claimed to work perfectly and to provide very powerful braking, but I must remind owners that the scheme can be applied only to Morgans fitted with f.w.b.; on other models the law relating to "two independent brakes" requires the rear-wheel brakes to be operated by separate controls.

* * *

At this time of the year, when the temperature at night is often below freezing point, owners of air-cooled cyclecars certainly have the laugh over those of us who run machines with water-cooled units. After a run, the former have merely to put their cars in the garage and forget them until another journey is to be undertaken. Not so the user of a water-cooled engine; he has to fiddle about with radiator lamps, muffs, rugs and so forth, or else drain the water out of the cooling system—an unpleasant job which, with the drain taps usually fitted, takes a considerable time.



This sketch shows the general arrangement of the Morgan brake compensating gear described on this page.

This difficulty can, of course, be overcome by putting glycerine in the cooling water and so reducing its freezing point, but there are other counts on which air-cooling scores. When starting out on a cold morning, for instance, an air-cooled engine warms up in the course of the first half-mile or so, whereas a water-cooled engine does not really get into its stride until some four or five miles have been covered. This slow warming-up certainly goes hand in hand with slow cooling down—an undoubted advantage where a number of comparatively short stops have to be made.

In this connection I may give a little tip which saves a certain amount of trouble where the engine is carried under a conventional bonnet and is cooled by air circulating through a dummy radiator and louvres in the bonnet side. When a stop of anything up to about three-quarters of an hour is made, it is well worth while to throw a rug over the bonnet.

* * *

The engine will not keep so hot as a water-cooled unit, but it will remain sufficiently warm to ensure an easy start. On numerous occasions, when driving cyclecars of the type described, I have found this tip useful, particularly when stopping for meals, when one does not want to be too energetic immediately afterwards.

Personally, I think that air-cooling is ideal for a cyclecar or, for the matter of that, an economical small car. The chief reason why the public is prejudiced against it is, in my opinion, because most cars are water-cooled and it is thought that air-cooling is a makeshift. Actually, it is nothing of the sort, one of the main reasons for the almost universal popularity of water-cooling among cars is the difficulty of arranging for satisfactory air circulation where four cylinders or more are employed.

* * *

In addition to the advantages I have already mentioned, there is the complete freedom from such troubles as leaky radiators and water joints, whilst the owner has no need to worry because the water level is getting low. On the other hand, air-cooled engines are apt to be rather heavy on oil and to require decarbonizing at fairly frequent intervals, but this job is quite easy.

CHRISTMAS
1926.

NEW YEAR
1927.

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HOW BRAKING

BRAKES SHOULD DISCRETION

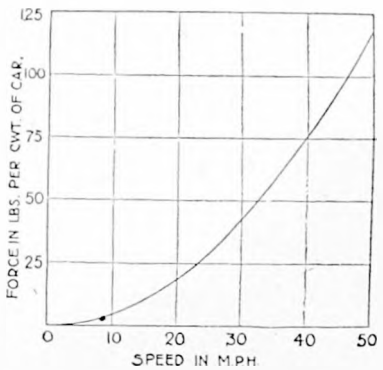
D[illegible]
ing [illegible]
calle[illegible]

that four-wheel brakes have become almost universal we are seeing a steady growth in the use of servo-operation, and it appears safe to prophesy an increased use of this method in the future.

These developments call for a more intelligent handling of the controls of a car if one is to get the best out of motoring. The driver who regards the right-hand pedal as "the thing you press when you want to stop," and so forth through all the controls, is hardly likely to derive the maximum amount of pleasure himself, nor does he contribute much to the happiness of his passengers or other road users. The efficient manipulation of a control demands at least a general idea of what is taking place at the other end of the lever to which the human effort is being applied.

One frequently comes across statements to the effect that a certain car is fitted with brakes so efficient that it can be brought to rest from 40 m.p.h. in a surprisingly short distance. In a life-and-death emergency such brakes are, of course, invaluable, but if one calculates what the performance involves, ultra-powerful brakes are likely to be used with considerable discretion.

It is obvious that when a car is moving it can be brought to rest only by means of an *external* force applied in a direction opposite to that of the motion. The only points at which such a force can be applied to the car are at the surfaces where the tyres make contact with the road. These surfaces are relatively very small in area, hence a force of any considerable magnitude, when its distribution per square inch is considered, is likely to assume dimensions little short of alarming.



This graph shows the relation between the speed of a car and the force on each tyre necessary to stop the car in 20 ft.

Students of mechanics will have no difficulty in proving that, assuming the braking action on all four wheels to be equal, the amount of drag which each wheel is called upon to exert on the car is given by the formula:—

$$F = \frac{0.94 \; w \; v^2}{d}$$

where F is the drag force on each wheel in lb.
w is the weight of the car in cwt.
v is the velocity of the car in m.p.h.
and d is the distance in which the car is brought to rest, in ft.

Thus, a car weighing 15 cwt., travelling at 20 m.p.h. and brought to rest in 20 ft. would require a retarding force acting on the surface of contact of each wheel of

$$\frac{0.94 \times 15 \times 20^2}{20} = 282 \text{ lb.}$$

This amount assumes that the braking effect on all four wheels is equal and that the retardation is uniform. These conditions are not usually fulfilled, hence a greater force would be imposed during part of the time.

Further, it should be noted that the force varies as the square of the velocity, and, consequently, if the speed is doubled the force will have to be four times as great in order to bring the car to rest in the same distance. This fact is illustrated in the accompanying graph, which shows the force required on each wheel in order to bring the car to rest in 20 ft. for each cwt. of the car's weight. If the distance is doubled the force may be halved.

Very little thought should now make it clear that such phenomenal braking achievements would be possible only by imposing huge forces on the tyres of a car. Of course, when one is faced with the alternative of a broken neck or an injured tyre there is no room for doubt in the choice, but in most cases it is wise to close the engine throttle early and use the brakes with moderation. It should be remembered that these large forces exerted at the surface of the tyre not only tend to tear off the tread, but are apt to strain the cord foundation to an extent quite beyond repair.

It may not be out of place to remind readers that a high degree of acceleration has precisely the same effect upon the tyres as rapid braking, the only difference being that the force acts in the opposite direction. It is, therefore, a little inconsistent to boast of the exceptional acceleration and braking facilities of one's car and at the same time to complain of the wear on the tyres. Great powers of acceleration and deceleration are luxuries which should be held in reserve for emergencies and not employed to their full extent upon all occasions.

It is well known, of course, that the greatest retarding effort of a brake occurs just before the wheel locks; that is, locking the wheels with the brakes will not stop the car so quickly as a more gentle application which just allows them to revolve.

Other good reasons for the avoidance of locked wheels are to be found in the prevention of excessive tyre wear, due to "scrubbing" on the road surface, and the elimination, to a large degree, of a tendency to skid, because, so long as the wheels are still free to revolve, the chances of a skid developing when the brakes are applied are not very great.

There seems to be a difference of opinion amongst manufacturers regarding the relative diameters of front and rear-wheel brake drums; some makers use larger, and therefore more powerful, drums in front, the theory being that when the brakes are applied additional weight is thrown upon the front axle, thus increasing tyre adhesion, which, in turn, increases the braking power. Other makers prefer to keep all the brake drums equal in diameter.

MORE DRIVING LESSONS.

WHAT WOULD HAPPEN IF CAR INSTRUCTION BOOKS WERE HUMORISTS? HERE IS AN EXTRACT FROM THE POSSIBLE

IT is assumed that the beginner is now ready to "take the wheel." This is done by sitting behind it and holding it—palms upward—at each side. The palms downward grip is, of course, the prerogative of the practised, just as it is the jealous privilege of the lorry driver to hold it at the top and rest the forearms down it.

Having hunched the shoulders into a crouch, the first gear should be engaged after depressing the clutch. One must get accustomed to minor ill-treatment, such as depressing clutches, choking carburetters, throttling engines and charging dynamos. On some cars even the air has to be strangled!

If, on letting the clutch in, the back of the seat (which should always be addressed as the "squab") hits you in the back of the neck and knocks your false teeth out, do not lose your head. It is fatal to lose one's head. It may only be that your clutch is fierce at being depressed.

Proceed about a quarter of a mile on first gear, with a look on your face like one of those priests of Baal who gash themselves with knives, then, by taking the clutch out (not out of the car, mind you), place the lever into the next position. If the car then proceeds to go backwards, give a quick glance over your shoulder to see whether anyone is pulling it; if not, it is probable that you have engaged reverse gear or else stalled your engine on a gradient.

A good plan to prevent the former is to stuff an old shirt into the reverse notch of the quadrant. The latter, however, is a sad fault. Does not the proverb say, "Better a dinner of herbs with the gears in mesh than a stalled engine without"?

"If you have a beard, do not look into your gearbox when the engine is running, unless the gears are fitted with a beard guard . . ."

Upon getting back to the garage straighten out the dents in your mudguards and remove the spots with a safety razor. Jack up the wheels and remove the flints. If you are acquainted with a boy borrow his knife, it will certainly do a thing on it for you the stones out of the horse's hoofs, and this will serve admirably. The flints can then either be added to the rockery or given to the hens to stop them laying soft-shelled eggs.

Before leaving the car for the night place some grub in front of the grub screws and give the dogs in the gearbox a dog biscuit. If there are any sprockets or splined shafts on the car, a portion of cold chisel should be given; but, of course, make the chart your guide.

Should the car be difficult to start, make sure that some ill-disposed person has not inserted a potato into the exhaust pipe or abducted an induction sprag. If you have a beard, do not look into your gearbox when the engine is running, unless the gears are fitted with a beard guard, for foreign matter in the oil results in unsatisfactory running.

When on the road try to have a fat passenger in the dickey to damp out bounce on rough surfaces, and always give correct signals. Notices saying, "All cars stop here," should be disregarded; they do not apply to you.

Finally, if possible learn to drive on a friend's car. Should anything break, return it as quickly as possible and advise him to get a better one next time. Also, pick a secluded spot for your first lesson; it may seem selfish to deprive your fellow-creatures of a little treat, but, nevertheless, be firm.

E.G.G.

MOTORING IN AN OLD STAGER.

THERE must be many, like myself, who, having a few pounds to spend, would like to purchase a cheap second-hand car, but are deterred by the fear of having to spend unknown and perhaps formidable sums on repairs. To such my experience of a summer's motoring in an old stager may, perhaps, provide a useful guide and, I hope, encouragement.

Careful observation led me to the conclusion that if and when I found myself in a position to buy a cheap secondhand car, I could hardly do better than choose an old two-cylinder model G.W.K.

When, on May 3rd last, the general strike was ordered to begin at midnight, it was imperative that I should be able to get to town and back daily from a South London suburb, and accordingly I bought a 1916 model G.W.K., in running order, for £15. For the fortnight or so during which the transport was disorganized I used the car daily for business purposes.

Of course, at the price it could not be expected to be free from blemishes, and during the evenings and early mornings the local garage staff made various adjustments and repairs, including fitting a new friction disc, patching up the tyres, which were in bad condition, repairing damaged wings and so forth, and adjusting the magneto, carburetter and brakes. Among other jobs which had to be done were the replacement of the valve caps, which had rusted in, and the repair of the radiator. Subsequently, a larger radiator, which was purchased second-hand, was fitted.

There were no tools or accessories of any kind with the car, and I bought most of the items I needed second-hand, my selection including:—Foot pump, 7s. 6d.; wheel brace, 3s.; jack, 15s. 6d.; side and tail lamps, 11s.; and a 4-volt 100-amp. battery, 10s. The cost of putting the lighting system in good order worked out at £2.

As soon as transport facilities had more or less returned to normal, I ran the car over to the G.W.K. works at Maidenhead, for a further overhaul, at a cost of just over £6.

In less than a month three of the tyres had burst and a fourth seemed likely to do so at any moment,

so I replaced all four and two of the tubes at a cost of £9 4s. The fifth tyre was sound and I carried it on the spare wheel.

As the four tyres were bought so soon after the car, and might as well—or better—have been put on at the outset, I have regarded them as being part of the cost of reconditioning the car, and charged them to capital account. All told, the cost of equipment and putting the car into good condition added some £39 10s. to the original cost of £15, £5 5s. of the former figure being for the second-hand radiator.

The cost of the necessary repairs and so forth may seem rather high, but I think the policy of buying a car in poor condition and thoroughly overhauling it is a sound one. I knew in exactly what sort of condition the car was, and went through the season with a serene mind.

Third-party Risks Only.

So far as insurance was concerned, the various companies required me to bear the first £5 of every claim, as the car was manufactured before 1919, and for a comprehensive policy they quoted round about £10 per annum. I therefore insured against third-party risks only, at a cost of £5 for 12 months.

The only serious running repair was the replacement of both rear springs. One of them broke after a fortnight's pounding over bad Devon lanes, and as the other needed setting up, I replaced them both at a cost of £3 18s. 9d.

Turning now to the car's performance, I may say that it has given me unqualified delight. No speedometer is fitted, but I have timed it between two milestones, and find it is capable of 40 m.p.h. It is not comfortable at this speed, but I could maintain an average of 25 m.p.h. on give-and-take roads, which I regard as good for a 10-year-old twin. It is the unfailing reliability of the car, however, that pleases me more than its speed. On hills it is slow, but sure.

The car has been the means of saving railway fares for journeys which would in any case have been undertaken, to the extent of £5 13s. 2d. I cannot credit it for saving fares to places that would not otherwise have been visited, but doubtless I should have spent a certain amount of money in other amusements if I had not had my own conveyance.

Altogether the approximate cost of the season's motoring has worked out as follows:—

	Capital cost. £ s. d.	Running cost. £ s. d.
Purchase, overhaul and equipment of car, including new tyres	54 10 0	
Licence and Tax		5 1 8
Insurance (third-party only) ...		5 0 0
Garage and parking		5 11 6
Repairs to car and tyres ...		13 15 4
Petrol (96 gallons = 33 m.p.g.)		7 12 4
Oil and grease		1 7 10
Cleaning materials, tips and sundries		2 11 5
	£54 10 0	£41 0 1

Owing to the present system of taxation, whereby a full quarter's tax is payable if I use the car after September 30th, I have now stored it for the winter in a relative's garage, and I expect next year's motoring, with the experience I have gained, and a well-vetted car, will cost me very much less. C.F.W.

THE "TESTER"—DO YOU KNOW HIM?

PHYLLIS was waiting for me outside the house while I had lunch. We were going to explore the beauties of the neighbourhood together, and I was going to put her through her paces. Phyllis was my new car, bought at the Show, and she had only just come from the works; a nattier little saloon you never saw. As I munched away I looked at her lovingly through the window and thought of the fine times we should have together.

Presently I sallied forth, and just as I closed the gate behind me I saw Jones. Now, Jones is one of those offensively cheerful fellows who are a thorough nuisance. He always pries into personal matters and "takes things in hand," as he calls it. He regards himself as a dominating personality and cultivates what he calls "pep and push."

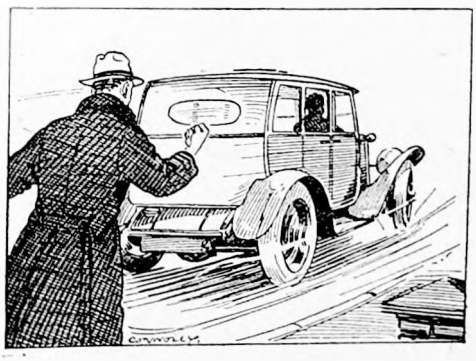
"Hullo, there!" he shouted as he caught sight of me. "What have we here—a new car? I must try her and see what she can do."

Thereupon, without further ado, he wrenched open the door and flung himself into the driving seat. Peering about, he found the starter and switched it on. The bendix engaged and whirred protestingly, but there was no response from the engine.

"Bit stiff—new engine!" bellowed Jones as he kept the starter hard at it.

"Switch on, you ape!" I thundered.

"Oh, so I see," he replied as he rectified the omission, making the facia board shiver with his effort. "Now we're off. I'll just warm her up a bit. Fairly high-revving engine—what? But you want it on a bus like this: absolutely essential, in fact, if you're going to make good use of the four-speed gearbox."



"He let in the clutch by simply taking his foot straight off the pedal and jolted off in *third* gear!"

The little saloon quivered with vibration. I was just about to lean over to switch the ignition off when he let in the clutch by simply taking his foot straight off the pedal and jolted off in *third* gear! To make matters worse, he had left the near-side door open so that it banged to and fro as he raced down the road. I stood chafing helplessly outside my own gate while I watched him bring the car to a sudden halt with all four brakes on, and then proceed to turn round in the road with a series of short rushes. Never have I felt nearer murder than at that time. But it was useless to try to do anything: he was too far off. Presently he came hurtling back and slid to a standstill on locked wheels.

"Fairly lively little bus," he said, "but I doubt if she will stand the wear and tear of the roads round here. Let's see what the springing is like."

Before I could stop him he was on the running board, and, gripping the roof with both hands, he swung the body backwards and forwards until I thought the springs would snap.

"Fair; only fair!" he yelled. "But what you *do* want is a larger jet." Unhooking the catches violently, he flung the bonnet open so that flakes of perfectly good paint chipped off. But my patience was exhausted, and, using a method generally practised by schoolboys, I propelled him rapidly down the road.

Phyllis and I are now at peace with the world.

J.D.L.

B15

With

When Travel by Road was a Great Adventure

IF Charles Dickens had lived in these days he would doubtless have been an ardent motorist. He loved the open road: travel was, to him, an adventure and a joy. No author describes the stage-coach days so delightfully as the great Victorian novelist and in many of his immortal books are some of the most piquant adventures on the road that have ever appeared in literature.

This wonderful writer was a lover of outdoors, and his experiences of travel, both on foot and by coach or carrier's wagon, must have been very extensive. In his day travel was much more of an adventure than it is to-day, when even the small country villages are served by a regular service of motor buses and the car and motorcycle are flourishing everywhere. Undoubtedly, journeying by road was quite adventurous in those times we read of in "Pickwick Papers," "Nicholas Nickleby," and "Martin Chuzzlewit."

To trace the footsteps and literary wanderings of the author of "The Old Curiosity Shop," whose inimitable pen has described the road in all its various guises, summer and winter, becomes an irresistible quest to those who also love the highway. Especially at this season of the year, when many of our long evenings have to be spent indoors, do we find pleasure in following the adventures of this immortal portrayer of life as it was nearly one hundred years ago.

There is no question that many of the road scenes described in the works of Charles Dickens are based upon the author's own experiences; for in his private letters—and he was a voluminous correspondent—he recounts many adventures that befell him on his travels.

His tour in the Highlands of Scotland provided him with as many roadside adventures as even his heart could desire. The trip was undertaken in 1841, when both the roads and the accommodation for travellers left much to be desired. He had many things to say about the inns and the people who kept them. "The inns," he wrote, when at Lochearnhead, "inside and out, are the queerest places imaginable. From the road this one looks like a white wall, with windows in it by mistake. We have a good sitting-room, though, on the first floor, as large (but not as lofty) as my study. The bedrooms are of that size which renders it impossible for you to move after you have taken your boots off, without chipping pieces out of your legs. There isn't a basin in the Highlands which will hold my face; not a drawer which will open after you have put your clothes in it; not a water-bottle capacious enough to wet your toothbrush. . . ."

The Trembling Bridge.

It was on his return journey south from Loch Leven that his party had a rather exciting time in crossing the river which flows out of Loch Tulla. Owing to tremendous floods the previous winter, the bridge over the river had been demolished, and the temporary one which had replaced it was in danger of toppling into the water owing to the flooded state of the stream, the weather being very rainy at the time Dickens was there. They were all soaked through to the skin when they arrived at the inn by Loch Tulla, but glad to have negotiated the rickety, swaying bridge in safety.

It must have seemed almost as risky entering the

inn, which was "a mere knot of little outhouses," and in one of these were fifty Highlanders, all the worse for drink. They were "lying about in all directions—on forms, on the ground, about a loft overhead, round the turf fire wrapped in plaids, on the tables, and under them. We paid our bill, thanked our host heartily, gave some money to the children, and after an hour's rest came on again." Such was one of Dickens's adventures on the road.

In another of his letters he tells of his journey from London down into Yorkshire—all the way by coach—in winter time. It was very cold throughout and, despite the severe condition, the journey as far as Grantham was done in good time; but after leaving that place—where he spent the night—the weather became much worse and the journey quite an adventure. In

the Journey's End Seldom Reached Without

his own words: "Yesterday we were up again shortly after seven a.m., came on upon our journey by the Glasgow mail . . . As we came further north the mire grew deeper. About eight o'clock it began to fall heavily, and, as we crossed the wild heaths hereabouts, there was no vestige of a track. The mail kept on well, however, and at eleven we reached a bare place with a house standing alone in the midst of a dreary moor, which the guard informed us was Greta Bridge. I was in a perfect agony of apprehension, for it was fearfully cold, and there were no outward signs of anybody being up in the house. But to our great joy we discovered a comfortable room, with drawn curtains and a most blazing fire. In half an hour they gave us a smoking supper and a bottle of mulled port. . . . and then we retired to a couple of bedrooms, in each of which there was a roaring fire half-way up the chimney"—the sort of welcome Dickens loved.

If we search through the pages of his books we find many descriptions of adventures on the road. In the pages of the "Holly Tree" he gives us a wonderful pen-picture of a coach journey through a wilderness of snow, when all landmarks were blotted out, the road itself to be merely guessed at, with imminent danger of the lumbering vehicle overturning in the deep drifts, and the coach itself a "mere snowball."

In "Nicholas Nickleby" a wintry journey from London to Yorkshire is depicted. The coach starts from the "Saracen's Head" on its long run of 250 miles, in very severe wintry weather. Through the driving snow the coach slowly rumbles all day and into the evening, the passengers cold and shivering. "The streets of Stamford were deserted as they passed through the town, and its old churches rose, frowning and dark, from the whitened ground."

Marooned in a Drift.

Then on through the bleak, snowy night until, when half-way between Grantham and Newark, the coach sinks on its side in a drift, and the sleepy, shivering passengers, drowsing uncomfortably in the bitter cold, are thrown to the ground. There are no casualties, luckily, and they all repair to a lonely inn; but with a large fire and plenty of faggots they soon recover their cheerfulness, and while away the time, until the relief coach comes up, by telling stories and drinking each other's health.

In "Pickwick Papers" there is a typical description of a journey by the Muggleton coach on a bright winter's day with a good hard road underfoot—a chapter that is well worth reading. In "The Tale of Two Cities" we find an account of the Dover Road in the days of His Majesty King George III. "In those times travellers were very shy of being confidential on a short notice, for anybody on the road might be a robber, or in league with robbers." Here we read a splendid description of the road in olden days when highwaymen were not unknown, and a coach journey by night was a thrilling adventure. But the reader should turn up the second chapter in that book and peruse for himself a story that makes the Dover road seem very real.

One feels positive that Dickens himself must have made a journey on the same road on a similar night to that described, although with less risk of highwaymen and with a guard minus his arms chest.

In "David Copperfield" there is a story of a tramp from London to Dover, some 60-odd miles, in six days, with adventures with tramps and tinkers and the loneliness of night spend under the stars. And we may find a description equally appealing to the imagination in the story of Oliver Twist's journey to London when he ran away from Beadledom and the gloomy workshop of the undertaker.

The works of Charles Dickens teem with fine stories of the days when road travel was a far different thing from what it is to-day, and when the inn or hostelry played a more important part in the business of travel than it does now. Although the great writer was perhaps somewhat given to exaggeration, the pictures he has given us of the road in the times he writes about are in the main accurate. A.S.

B17

The Charm of Eastern Yorkshire

(Left) The Marine Drive at Scarborough, from which fine sea-views are to be obtained. (Right) Guisborough Abbey.

THE COAST OF YORKSHIRE PRESENTS MANY ATTRACTIONS FOR MOTORISTS, WHILE THE INLAND MOORS ARE ALWAYS BEAUTIFUL EVEN AT THIS TIME OF YEAR.

FROM the motorists' point of view the coast of Yorkshire is one of the most interesting and delightful that one could possibly find. It is rugged to the point of grandeur, while the inland moors afford magnificent runs.

Somewhat naturally, Scarborough suggests itself as a centre, and, although it is toward the southern limit of the choicest portion, it provides all the motorist's requirements with such unlimited sufficiency that its call is difficult to resist. Quieter places lie along the coast at Filey, Robin Hood's Bay and Whitby, but in a town like Scarborough inclement weather loses much of its bitterness.

A short run near at hand, before the moors are attempted, lies through the Forge Valley by Scalby and Hackness. The trip is less than 15 miles in length and the scenery in the Forge Valley itself is very pretty. In its luxuriant foliage and with its dense woodlands it is a striking contrast to the wild and open moors.

Across the Moors.

Instead of turning towards Scarborough at Aytoun, where the valley ends, the westward road may be taken to Thornton Dale or Pickering and the run to Whitby made across the high moorland. This is an excellent road with a fine surface, and extensive views are to be obtained. The 12 miles of the Lockton and Goathland moors are equal to anything of the kind that Yorkshire can offer. There is a steep drop to Sleights and an easy road thence to Whitby.

Those artistically inclined will find much to please them in Whitby. Its narrow streets, fishing boats, old buildings and views along the quay provide endless opportunity for the photographer.

The return journey to Scarborough should be made by Hawsker and over Flyingdales Moor. From Hawsker a steep road leads down to the coast at Robin Hood's Bay, and at Claughton one may turn back to the rocky coast at Ravenscar.

Although the high moorlands lie to the north of Scarborough, the coastline to the south is well worth tracing. Filey, eight miles from Scarborough, is a quiet little seaside village, but one misses the chalk cliffs which are so distinguishing a feature of this coast. Another eight miles lead to Bridlington, where the interest of the old town and the quay with their pictorial charms atone for a less interesting coast. A fair road connects Bridlington with Flamborough, where once again the cliffs stand out in their rugged grandeur against the eternal buffeting of the waves.

A Pleasant Picnic Site.

Near the lighthouse at Flamborough Head cars may be run on to the grass as close to the edge of the cliffs as may be desired. It is an excellent spot for an alfresco meal.

A good road leads north-west from Whitby to Guisborough, and a hilly and less perfect way hugs the coastline to Saltburn and Redcar. An old map marks this road as "scarcely rideable"—but that was in the interests of the cyclist!

The marine drive at Scarborough is a model of excellence, the wide, well-paved roadway giving magnificent sea-views, although a strong north-easterly wind at high tide sweeps the waves and clouds of spray completely over the road.

History, too, has left its records throughout Yorkshire. Scarborough and Pickering have their castles, while Whitby is famed for its monastery, although the careful state of preservation in which its ruins are now kept robs it of much of the glamour of past years. Inland there are minsters, priories and abbeys in surprising abundance, but these do not belong to the coast, and the visitor to the Scarborough district will probably prefer to explore the shore, with its unique delights of cave, bay, and scarred, broken rock, much of which lies but a short distance from the road. A trip into the interior will, however, be amply repaid for many exquisite views and buildings of historic interest will be found.

OUR READERS' OPINIONS

We take no responsibility for the opinions expressed by readers. Correspondents may use a nom de plume, but every communication must be accompanied by the writer's full name and address. Letters for the next issue should reach us by Monday morning and should be addressed to the Editor, "The Light Car and Cyclecar," 7-15, Rosebery Avenue, London, E.C.1. We reserve the right to make any alterations or deletions which we deem necessary.

IMPROVING NIGHT DRIVING CONDITIONS.

Treating Lamps for Fog-driving—Preventing Dazzle.

Eliminating Back-glare in the Fog.

Tinting Lamp Glasses.

As I have been interested for some time in the question of fog penetration, may I add some remarks to your article, "Fog Facts," which appeared recently? To refer to cutting out the white rays is not strictly correct, white being a mixture of all the colours of the spectrum. As is well known, the wave-length of the light becomes shorter as one passes from the red end of the spectrum to the violet, the latter having a wave-length about half the former. It has been observed that the obstruction, or "scattering," of light rays by fog (minute water drops) increases towards the violet end of the spectrum, and it has been calculated that the scattering power varies inversely as the fourth power of the wave-length, so that violet light is scattered about 16 times as much as red light by the same amount of fog. In other words, the light from the red end of the spectrum can penetrate fog much better.

Using ordinary unscreened lights, the red and yellow penetrate some distance through the fog, but the violet, blue and, to a less extent, the green rays are scattered or reflected, producing the back-glare which is so objectionable. Obviously, the use of a screen which would cut out these undesirable rays should help. The use of yellow cloth is not a satisfactory cure, as it cuts out some of the other rays.

Your article refers to the use of a device, apparently of coloured celluloid, which can be easily attached; this is an excellent method; but I was not aware of the device before, and have evolved the following method, which may be of interest to your readers.

I have succeeded in finding a dye which is soluble in spirit and which has a very clean cut in the middle of the green; in other words, whilst cutting out practically all the violet, blue and blue-green, the passage of the red, orange, yellow and yellow-green rays is not interfered with at all. This dye is known as "Sudan red." A very little of the dye is dissolved in amyl acetate and mixed with a clear lacquer, preferably one of the proprietary varnishes, such as Luc or Negolustre, the right amount being found by experiment.

The solution is then applied to the inside of the glass of the headlamps, and, after spreading evenly, allowed to dry in a horizontal position. If the result is too dark or too light the lacquer can easily be removed by using a little of the "thinner" or else amyl acetate. The making up of the correct mixture is, I admit, a little troublesome.

I have found this method to be extremely effective, back-glare being very much reduced, whilst the colour of the beam is a pleasant orange-yellow or amber. To get the best results the near-side light should be focused on the kerb and the off-side one tilted slightly down. A somewhat unexpected effect is that, even on perfectly clear nights, the yellow light is found to illuminate the road as well as, or even better than, the unscreened light, apparently increasing the contrasts; there is no objection, therefore, to using the coloured glass for normal nights.

A. GLYNNE LOBLEY.

Legislation the Only Cure for——

——Dazzling Lamps.

A subject which, among motorists, has probably been discussed more than any other during the last four or five years is the question of how to eliminate the danger of dazzling headlamps. A large proportion of my driving is done at night, so that the problem is one which affects me considerably and I have consequently given it considerable thought. I have, in fact, whiled away many a lonely trip in the dark by puzzling my brains inventing all kinds of wonderful devices which would lay for ever that fiend of night driving—dazzle.

The conclusion I have finally reached is a rather startling one. It is, *that no invention, however good, will of itself put an end to the danger.* My reason for this view is that any satisfactory anti-dazzle device must obviously stop the trouble at its source; in other words, it must be fitted to the lamp which is the cause of the dazzle. No driver suffers from the glare of his own lights (except perhaps in a thick fog) and he does not therefore benefit himself by fitting one of these attachments. That he benefits other drivers is unquestionably true; but there is, and always will be, a large number of people who do not mind how much they inconvenience others provided this selfishness does not reflect on themselves.

Therefore, without compulsion, a considerable proportion of motorists will not go to the expense of fitting anti-dazzle devices. The only course is to make them do so, and this will have to be achieved by legislation. "But," say my critics, "how are you going to define what constitutes a dazzling light and what does not without instituting elaborate and troublesome tests?" The matter is quite simple if the regulations are framed on the following lines:—

(1) Dipping headlamps shall be fitted on all vehicles, the term headlamp being taken to mean any source of light of over six candle-power.

(2) On meeting any other lighted vehicle the driver shall dip his headlamps when at a distance of not less than 30 yards from the oncoming vehicle.

(3) The movement of the lamp shall be such that, when dipped, the centre of the beam strikes the road at a point not more than 20 yards from the front of the vehicle.

These three clauses would, I think, cover the problem in a simple and satisfactory manner, for it is generally acknowledged that dipping headlamps are ideal provided they are universally employed. The cost would not be very great and, in any case, they would soon be fitted as standard on new cars. The figures given in these clauses may not be the most suitable, for I have not carried out any definite tests. A little investigation, however, would soon settle these points. Do any other readers agree with me that legislation is the only cure for the problem? If so it would be interesting to have their views.

J. F. MANLEY.

B19

OUR READERS' OPINIONS (contd.).

The Value of Competitions to the Public.

Are Trials Justified?

The Public Interest.

I have read the various letters on the need for a real test, and I personally am one of those who do like to see plenty of road trials. The Hon. Victor Bruce has entered an A.C. car for the John o' Groat's to Monte Carlo trial, which he won last year in a six-cylinder A.C., and after that is over he hopes to undertake an R.A.C. test of many thousands of miles in Europe and Africa, so this will be more severe than any test we could have held in this country: the trouble is, of course, that it is surprising how few people who buy cars really seem to take any notice of public trials.

Nowadays price seems to be a more potent factor in selling a car than anything else, the reason, I suppose, being that there is such a large number of motorists who do not appreciate how good cars must be to come through observed trials with success. It is because I so thoroughly believe in observed tests that I have entered A.C. cars in large numbers of R.A.C. observed trials, but sometimes one wonders if it is worth the money owing to the small interest the bulk of buyers seem to show in the results.

S. F. Edge.

The Experiences of Trade Drivers Important.

Pointing Out Faults.

On turning to "Our Readers' Opinions" in last week's issue of your journal I was extremely pleased to see that several very prominent car manufacturers support your plea for at least one really comprehensive trial in 1927. As a motorist who, for various reasons, cannot, unfortunately, take part in any trials, but who, nevertheless, takes a great interest in them, I have always held that the more important events of this nature are of great use to both public and manufacturer, *provided that trade drivers take part.* If only amateurs compete, the trials have no value to the general public—excellent as they are for those who take part—because so much depends upon the skill of individual drivers and the amount of care they have given to preparing their cars. The results, therefore, cannot be taken as a guide to the quality and design of the cars competing in the event.

With trade entrants the matter is very different. One can be sure that these drivers are really experts, and any failure can be attributed to the car and not its driver. With this fact in mind it is possible to obtain really useful information from the results. The manufacturer also gains from the results; if, for example, his own drivers complain that their cars suffered from overheating, he knows that the cooling system certainly needs improvement and that the trouble is not the result of clumsy driving or a badly tuned engine. Consequently, he can set about modifying the design to overcome these difficulties, and in the cars he subsequently produces the fault will have been cured. The advertising value of trials is too obvious to need emphasis.

It would be of great value if other manufacturers would give their views, for the whole question is, I think, of the greatest importance.

Commercial Traveller.

Lift the Ban and——

——Let Common Sense Prevail.

May I add my appeal for a real test to those which have already appeared in your journal? I am just an ordinary man-in-the-street and, let me whisper it, I used to think there were too many trials. We were saturated with them—your paper contained page after page of competition reports and some of us may have thought we were having too much of a good thing. But, here is the lesson. We knew all about the performances of every light car that entered the arena.

What a different tale must be told to-day! We men-in-the-street are losing our grasp on things motoring; no longer are we able to say that so-and-so is a "good 'un" as proved by its consistently good performances in this trial or that. We are losing touch, and we find it difficult to pick out the good from the bad.

Remove the ban, that, in my opinion, is the remedy for a state of affairs that is becoming serious to a lot of us who enthuse over cars. Remove the ban and let clubs use their common sense in the number of trials they organize.

Onlooker.

Windscreen Wipers—Successful Advertising.

Wipers Coupled in Tandem.

Ensuring Clear Vision.

Your article entitled "Ensuring Clear Vision" proved invaluable to me. I had made the all-too-obvious mistake of tightening up the screw in the fork so that the blade of my wiper was held rigidly. I have now slacked it off, and it works admirably.

Would it be practicable to couple up two wiper-arms in tandem, the motive power being supplied by one cylinder alone? Such an arrangement would add to the enjoyment of one's passenger and give wider vision to the driver.

F.L.

* * Wiper-arms can be coupled up as suggested, but the work of the operating mechanism is doubled, and this may cause the wipers to cease functioning on open throttle. One manufacturer recommends the installation of two complete instruments, drawing their "vacuum supply" from a Y-shaped connection in the induction pipe.—Ed.

The Science of Advertising.

Gauging the Buyer's Outlook.

The whole question of motorcar advertising is as complicated as it is interesting. The secret of planning a successful advertisement lies in appreciating the mental outlook of possible buyers and in telling them the things they want to know about the product one is endeavouring to sell. Announcements in the motoring Press reach a fairly discerning class of purchaser—men whose cars are more to them than mere carriages—and as the views already expressed in this journal seem to have limited the discussion to advertising in the motoring papers, I shall confine my remarks to that side of the subject and neglect, for the moment at any rate, the question of motor advertising for the people who know little and care less about the things that make the wheels go round.

Readers of motoring papers use car advertisements chiefly for making quick comparisons of the merits of various cars. For that reason facts and prices are needed and a good photograph showing the car or one of its units is valuable. The semi-expert reader is generally fairly sure what car he wants and has read of its road test and constructional features in the editorial pages. The cleverest "copy," which says no more than that the brakes are good and the engine powerful and the upholstery soft, will not influence his decision one way or the other. As I have already pointed out, he wants definite facts.

A sound "layout," however, with a pleasing and unaffected type-face, is distinctly valuable, since the appearance of a well-balanced advertisement will remain impressed on one's memory long after the page has been turned.

Briefly, and in order of importance, these are, in my opinion, the points of a successful motorcar announcement in a motor journal:—(1) Short, but as far as possible complete, mechanical specification; (2) a good photograph of the complete car or some part of it to emphasize a special feature (no futurist drawings, please); (3) attractive layout.

Manufacturers should take one definite principle to heart and say to themselves: "The technical reader doesn't want jokes or short stories; he wants to know what sort of car we build. Let's tell him all about it."

With regard to the completely non-technical buyer of cars, that, as Mr. Kipling has said, is another story. On him and on his women folk the professional "copy"-writer can loose his whole armoury of persuasiveness in the advertisement columns of the more dignified dailies and the more frivolous illustrated weeklies.

Moviator.

TO CORRESPONDENTS.—Please write clearly on one side of the paper only and leave a wide margin. It helps!

Visibility good—

Brasso cleans celluloid. You know that you must have a clear view to the right and to the left if you are to enjoy driving. Good visibility all round reduces your risks. Use Brasso for your celluloid wind screens, and the metal parts of your car.

BRASSO
cleans celluloid

RECKITT AND SONS, LTD., HULL AND LONDON

READERS, NOTE.—It assists the small car movement and the advertiser, and ensures you prompt attention, to mention "The Light Car and Cyclecar" in your enquiries.

B21

POWER

—*from a trickle to a torrent at your command*

A WONDERFUL instrument is the Zenith Carburetter. Responsive to the slightest touch. One moment feeding an idling engine with the merest whiff of gas. A jerk of the throttle and the trickle becomes a mighty raging torrent of power.

And the marvel of it all is that this conversion of petrol into gas is performed with—but one single moving part. Nature's own methods are used—Gravity and Suction.

The marvellous flexibility which has always been associated with the Zenith and that flashing acceleration are due entirely to the system of the Compensated Jet.

Converting petrol into gas is not quite such a simple job as it looks. Engine speed is a vital factor—and engine speed varies every moment. When the engine speed is low—as in climbing a hill—more air than petrol would normally be sucked in. This would result in a weak mixture and loss of power just when it is most vital. On the other hand when the engine speed is high, as for instance when travelling fast on the level, the increased engine suction would have a greater effect upon the petrol than upon the air—because petrol is heavier than air. And thus an unnecessarily rich and extravagant mixture would be created.

This was the problem which Zenith solved once and for all when the unique principles of the Compensated Jet were disclosed. No matter whether the engine speed is high or low the correct mixture is always available. *Scientifically* correct. The greatest amount of air permissible is always present. This saves your pocket—with a Zenith fitted to your engine you can rest assured that you are getting the cheapest possible motoring.

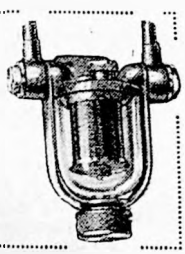
Here's our offer to you: Send for our catalogue and tell us the make, h.p. and date of your car. We can send you a Zenith specially designed for it. Use it for a reasonable period and give it an extended test. If it does not satisfy you in every possible way—more power—smoother running—greater acceleration—it can be returned to us within one month and your money will be returned in full without question. You are to be the sole judge.

Zenith Carburetter Co., Ltd., 40-42, Newman Street, W.1.

Filter your petrol as you go

You don't always know what you buy at the pump. Sometimes you get the last few gallons out of the tank—the dirt and the water. The safe way is to filter your petrol as you go. The new Zenith direct vision filter will thoroughly cleanse every drop of petrol on its journey to the carburetter. Employs new principles of "edge" filtration. No gauze and no leather. Nothing to choke or clog. Nothing to wear out. Sediment always in sight. Instantly cleaned without use of tools. Fits all cars and carburetters. Price **24/-**

Postage 6d. extra.



ZENITH

Gilbert Ad. 6670.

OUR READERS' OPINIONS (contd.).

Police Persecution.

My recent experience at the hands of the police may, perhaps, be of interest. I had occasion recently to take some goods in a 7-cwt. van to Palmer's Green. Everything was O.K. until I got to the Wood Green Broadway, when going up the rise and nearing the brow of the hill I was stopped by a police constable and told to pull into the near side and apply my brake. I asked him what was the matter, but he simply repeated his command, adding that another officer was coming up. On arrival, the second one said, "Your back number is a bit indistinguishable isn't it?" I replied that I did not think so, and got down to have a look. He said he could not read it. When I said that I could read it, he replied, "Of course, because you know the number."

A Flagrant Case.

I then suggested that he should get a stranger to read it. He did so, and some yards away asked a workman if he could read the number of my car. The man did so without any difficulty, whereupon the P.C. told him he was guessing them. After that we walked back to the car again and the P.C. said, "You were making a bit of a noise coming up the hill, weren't you?" I replied that he must have made a mistake. "Oh, no, I haven't," he said. I pointed out to him that the car was not making a noise then, and it was still running. "Well, she is only ticking over," he said. I immediately opened the throttle wide and still there was no undue noise.

We then returned to the numbers and I was told that I was not in order as they were not on proper plates. I said that I thought they should be painted on a flat black surface, and, therefore, my numbers complied with the regulation. This resulted in more officious remarks by this very attentive tendril of the law. Not satisfied, the constable went to the licence holder. Here he nearly exploded, because instead of having a glass in it I have recently placed a piece of quite new celluloid, which is absolutely watertight. He said celluloid had been forbidden 18 months ago. By this time I was beginning to think that I ought not to be on the road at all. After a bit more lecturing I was told finally to get all these things put in order, or else this worthy policeman would be treading on my toes.

The question I would like answered is, why was I pulled up and lectured in front of a giggling crowd? There was nothing the matter. Perhaps, the car looking old and rather shabby, they thought it might prove an easy prey, and were tempted to exercise their knowledge at my expense. I forgot to mention that when first pulled up on the hill the first constable leaned, without openly appearing to do so, with all his weight against the car: it seemed to me that he was trying his best to push the car back, thus proving my brakes to be faulty. He did not succeed.

I trust I have not taken too much of your space, but I think that treatment like this at the hands of ordinary public servants ought to be made public.

C. HAWKRIDGE.

Three or Four Speeds?—Radiator Positions.

Attaining 60 m.p.h. in 20 secs.

As an exponent of three-speed cars one expects a letter crabbing four-speeds from the Hon. Victor Bruce. Does he also believe in side valves for high-efficiency 1½-litre engines, quarter-elliptic front springs, a gearbox-cum-axle unit and the various other unconventional details of the cars he always drives? If so, his views must be opposed to those of 90 per cent., or more, of sports-car owners. Admittedly his ideal of achieving 60 m.p.h. from rest in 20 secs. sounds extremely attractive, but who is most likely to be able to do it—a man with four speeds or a man with three?

With Three Speeds.

LEA F.

Hon. Victor Bruce and——

The letter from Victor A. Bruce upholding three speeds comes from a man whose name we have known, and respected, as a driver of three-speed cars in big events for a number of years. Has he ever driven a four-speed car? I do not mean, of course, any old four-speed car, but one of the same class and calibre as the A.C., the virtue of which he so often extols.

—Three or Four Speeds.

It would be interesting if he could conduct a proper test of one of the first-rate four-speeders, such as the Alvis or Len-Francis, and then give us his opinion. Instead of a (screaming) 45 m.p.h. on the highest indirect ratio he would be able to enjoy a comfortable 50 m.p.h. and 60 m.p.h. at a pinch. Would this not interest him?

H. E. LINSCOMBE.

What is the Best Radiator Position?

I read with interest your readers' opinions of the S.3 h.p. Renault which appeared in a recent issue of *The Light Car and Cyclecar*, and was struck by the universal approval of the cooling system. One owner mentioned that neither a two-hour climb on low gear nor tropical heat produced boiling. How many light cars with the conventional belt-driven fan and radiator in front of the engine could, I wonder, equal this performance? Of course, similar results might be obtained by gross over-cooling for normal running, but this would have very detrimental results on the petrol consumption and carburation generally. Again, quoting your readers' opinions, the Renault is unusually "shy" of petrol, so that in this case over-cooling evidently does not apply in any shape or form.

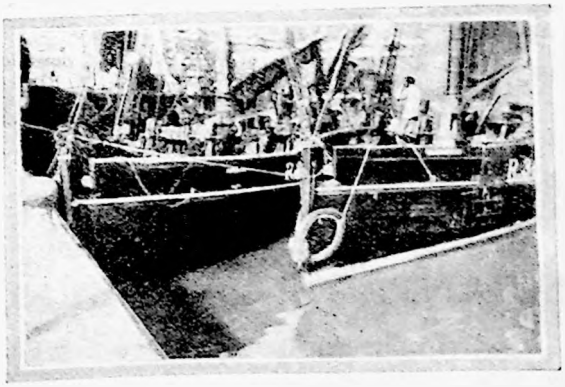
Before or Behind the Engine?

A radiator at the back of an engine is in a far less vulnerable position than that normally adopted, and naturally far less dirt and grit find their way to the carburetter air intake.

In these days, when so much attention is being given to efficient air scavenging, this point is an important one. Now that a large number of manufacturers are bringing out new or redesigned models, surely the important question of the radiator position is worthy of very careful consideration. It would be interesting to hear other readers' views.

May I congratulate *The Light Car and Cyclecar* on publishing readers' opinions of various cars? They are most interesting to prospective buyers.

G.E.H.



Getting value for money. Two tyres which, having performed their normal service on the wheels of a car, now do duty as fenders on a boat.

To What Base Uses . . .

I enclose herewith a snapshot which may be of interest to your readers. It shows one of the base purposes to which motor tyres which have lived their normal life can be put. Perhaps some of your readers know of other novel uses for worn-out tyres.

A. N. MINCHIN.

B23

OUR READERS' OPINIONS (contd.).

The London-Gloucester-London Trial.

I think the recent London-Gloucester-London trial taught both the organizing club and the competitors a lesson which should be borne in mind in the future. It is that with a big entry a trial should have either a short or an easy course. I think the North-West London Motor Club honestly tried to provide a really sporting course. Last year, when the number of competitors was considerably smaller, the competitors complained that the course was too easy. This year the club apparently decided that these critics should be well catered for, and the result was that the grumblers found that they had to contend with more than they expected. If the course had been short and stiff or long and easy all would have been well. Trials of the former type, such as the Colmore Cup and the Victory Cup, are as successful as events of the latter sort, such as the "Exeter" and the "Barnstaple." Competitors out to break their frames have ample opportunity provided in the first, and lovers of a long drive, with one or two tests for their driving skill and the powers of their cars, favour the second. In my opinion it is a mistake to try to combine the two. PASSENGER.

Unsuitable Courses.

The Coming of the Americans.

In common, no doubt, with every other keen motorist I read "The Challenge from America," by Mr. J. G. Parry-Thomas, with the utmost interest. I think all true sportsmen will welcome American race drivers and their cars to Brooklands, which, alas! is our only speed track, and it will be instructive to see how cars and drivers perform there. From what I know of Americans, they will very soon adapt themselves to the new conditions.

We Must Prepare.

Had we not proof of their ability in this direction during the war? The U.S. battle fleet arrived, after a record trip, at Scapa Flow, and the Admiral sent his famous message to Washington: "Arrived, as per schedule." Then the fleet settled down to learn the ways of its allies, which included new signal codes, new orders—new everything. Within a few weeks all this new knowledge had been assimilated and the whole fleet was—English "for the duration."

No doubt the same thing will happen on the race track. Americans, as I have said, are very adaptable, and if we are to hold our own we must have help from our Government. The words "Brooklands" and "road racing" must be more than whispered in Parliament—they must be shouted until they are heard by those politicians whose ideas, at present, are somewhat out of date. Officialdom has held us too long in the leash. UNCLE SAM'S COUSIN.

Internal Fog on Saloon Windows.

The reference by "Focus" in your issue of December 17th to the phenomenon of internal fog on the windows of saloons raises an interesting matter on which, I think, the views of your readers would be appreciated. As stated in the article, misty shop-windows are a real bugbear to shopkeepers, particularly if the goods displayed are at all moist, and the trouble is accentuated in countries, e.g., Canada, where extreme cold is encountered.

Can It Be Prevented?

The "misting" is, of course, due to the different temperatures on the two sides of the glass, resulting in condensation. Shopkeepers overcome the difficulty, I believe, by arranging for ventilation holes at the top and bottom of the glass, which allow the outer air to circulate over the inside of the window. A more elaborate arrangement utilizes the services of an electric blower (somewhat like an organ blower), which sucks in the outer air and, from concealed pipes, sprays it across the inner face of the window. I imagine that neither of these arrangements could be adapted for use on cars. The latter seems too elaborate to be a commercial success and the former would probably destroy the chief attraction of a saloon—the absence of cold draughts.

The solution seems to rest with the use of a wiper operating on both sides of the screen, and possibly one of your ingenious readers may have converted a standard instrument and would be willing to give us details.

PERSPICAX.

Preventing Rust.

I bought my present car about a year ago and, for the most part, the paintwork is still in good condition, but, as happens in most cases, the enamel has been accidentally chipped in places. I have not always had the opportunity to touch up these with enamel immediately, with the result that the metal has rusted. If the matter ended there I should not mind, for it would be quite easy to remove the rust and apply a little enamel. Unfortunately, however, the rust has crept under the enamel, which is now flaking off round the scratches and it is very difficult to treat it satisfactorily.

A Suggestion.

The use of aluminium for the body panels and wings overcomes this trouble, but the cost is, I suppose, slightly higher. A method which seems to me quite practicable is to copper-plate steel panels before enamelling, but this might prove too expensive. I cannot, however, see any objection to giving every car an undercoat of common paint. As everyone knows, ordinary paint can be applied quite satisfactorily over rust, so that if it did become chipped it would not flake off owing to rust eating its way below the coat. I should not think that the gloss of the finish would be affected, for the usual coats of enamel and varnish would be applied on the top of the paint. I suppose there must be some objection, or manufacturers would have adopted the idea long ago, but I should certainly like to know what the objection is. H. H. MCNAB.

INFORMATION WANTED.

SWIFT.—The loan of, or opportunity to purchase, an instruction book for the 1924 10 h.p. model would be appreciated.—J. Meadows, Winnats, Orchardleigh, Chesham.

COVENTRY-PREMIER.—The opportunity to borrow or purchase an instruction book dealing with the 1922 8 h.p. model would be appreciated.—John W. Warrington, 46, Grove Green Road, Leytonstone, E.11.

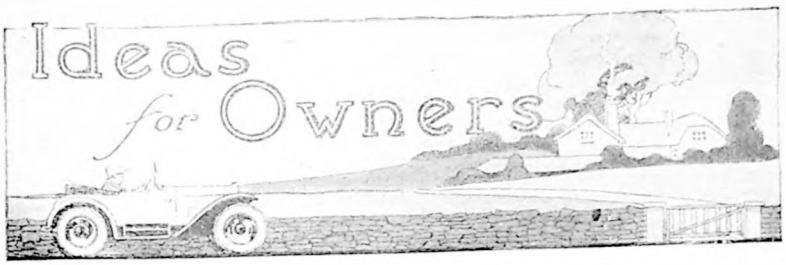
DEEMSTER.—Readers' experiences with the 1922 9.5 h.p. model and the opportunity to borrow or buy an instruction book dealing with the car would oblige.—F. C. Hamshere, 97, Elthorne Avenue, Hanwell, London, W.7.

WANTED——EXPERIENCES OF TROJAN OWNERS.

Prospective purchasers often write to us concerning the behaviour of certain makes of car in the hands of ordinary private owners, particularly with reference to such matters as reliability, maximum speed, ease of control, petrol consumption, and so on. We are, therefore, publishing in these columns readers' own experiences of popular cars, and we are devoting up to one page exclusively to this feature as regularly as possible. Only 1926 models will be dealt with, and a mileage of at least 5,000 should have been covered. Letters should not be more than 200 words in length, and correspondents should write on one side of the paper only. Actual facts—not opinions—are required.

The Writer of Every Letter Published will Receive a Six-shilling Sparking Plug.

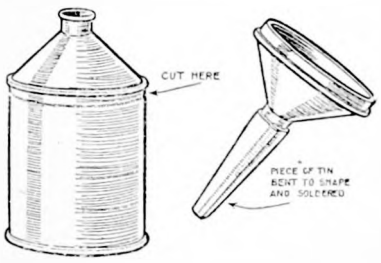
MENTION of "The Light Car and Cyclecar" when corresponding with advertisers assists the cause of economical motoring.



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.

Bonnet Squeaks.

Bonnet squeaks are frequently mistaken for almost incurable body squeaks. Before suspecting the latter try the following tip. Smear graphite grease along the joint made by the bonnet with the scuttle and radiator, and lift the leather lacing or lamp wick so that a little grease can be worked under.



A varnish tin may (with the aid of shears and solder) be successfully turned into a funnel.

Useful Funnel.

If an old varnish can with a conical top happens to be among the assortment of disused tins usually to be found in a private garage it can fairly easily be made into a quite serviceable funnel. The top should be cut off as indicated in the accompanying illustration and a tapering tube, made from a piece of the wall of the can, soldered on to the neck.

Filling Grease Guns.

Grease guns are now supplied in nearly every car toolkit, but an instrument for filling them is seldom included. Using a screwdriver or chisel is messy and wasteful. It is much better to cut a strip of tin a little longer than the gun barrel and of a width equal to the diameter of the bore. The strip is inserted in the grease tin and turned round and round until it has grease adhering to both sides. It should then be slid into the gun barrel and withdrawn between the thumb and forefinger to keep the grease inside. An alternative, of course, is to cut out a metal disc to fit the grease tin, bore a hole in the centre of the disc slightly smaller than the diameter of the gun barrel and fill by placing the barrel over the hole and pushing down.

Rover Wheelbrace.

The toolkit of some Rover Nine models did not contain a wheelbrace, and, although it is quite practical to use a spanner to undo the stud nuts, the operation is irritating and tedious. Wheelbraces which fit the nuts quite well can be obtained for about 4s. 6d., and it is money well spent. After all, one does not require to remove a wheel only when a puncture occurs; "wheels off" should be the order when washing the car.

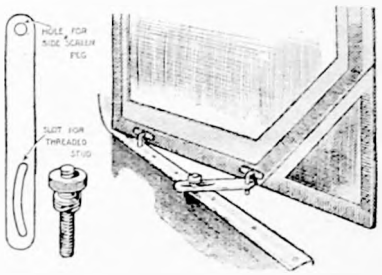
Smartening up the Garage.

The following solution, applied either to wood or cement garage floors, puts a very artistic touch to the building, and at the same time makes a non-porous surface, from which water, oil and grease can be easily and quickly wiped:—

Dissolve 3 lb. of shellac in 1 gallon of methylated spirit (this is best done by allowing the spirit to stand in a warm place for about 48 hours after the shellac has been stirred in; an air-tight can should be used and the mixture stirred occasionally). Colouring matter may then be added. Brunswick green, venetian red or cobalt blue may be obtained in powder form, and this serves admirably. The whole solution should be strained through a fine gauze or muslin rag before it is applied with a large-sized varnish brush. These proportions should be sufficient for an averaged-sized garage and the stain dries in three-quarters of an hour, making a wonderful improvement both in appearance and utility.

For Repairing Hoods.

Holes chafed in a hood, tears or "snags" are easily mended with the aid of John Bull Mend-a-tear, which is obtainable from all the big accessory houses in the form of small equipments. These contain patching material and rubber adhesive in strip form, which obtains an excellent grip when pressed into place with a hot iron. The strip adhesive, by the way, can be smeared with a warm iron on to chafed parts of a shiny leather hood, making them waterproof and quite unobtrusive.



A side curtain hinge for early Austins. It allows the top of the door to be used as an armrest when the screens are erected.

For Early Austins.

Drivers of 1926 or earlier Austin Sevens who are accustomed to rest their right arms on the top of the door when the side screens are down find themselves handicapped when the screens are erected, for they are of the one-piece type pegged fore and aft. To overcome this a strip of metal (steel or brass) about 4 ins. long, ½ in. wide and ¼ in. thick should have a ⅜-in hole drilled in one end and a 1½-in. slot cut in the other (see accompanying diagram). The screw nearest the rear peg hole should be removed and a 2-in. threaded stud capable of taking a brass terminal nut or wing nut, together with a spring washer. The illustration shows how the fitting is arranged.

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.

E.F.G. (Edinburgh).—Never wash the bonnet while the engine beneath it is hot. The discoloration and spotting have doubtless been caused by this.

T.B.W. (Colwyn Bay).—Loose connections or lamp sockets are almost invariably the cause of flickering lights. We should advise you to go over the wiring system carefully, paying particular attention to the sockets, as the bulb caps may not be making proper contact.

L.C.C. (Highgate).—Lack of care with lubrication and running at excessive speeds are the main causes of trouble in a new engine. Pay very careful attention to the makers' oiling chart and carry out all their instructions to the letter. Never race the engine when standing in an attempt to get it warm quickly.

P.M.H. (Newhaven).—You seem to have taken all the usual steps in trying to regain the power which, apparently, your engine has lost. However, you have overlooked the silencer, which may be dirty and causing back pressure. Give it a thorough cleaning out and drag a wad of cotton waste through the exhaust pipe by means of a length of wire.

B27

A.T.B. (Manchester).—The correct pressure to which the tyres of your Austin Seven should be pumped is 35 lb. all round.

A.C.H. (Caterham).—Castor oil is the best dressing for a leather clutch lining, but be very careful not to apply it too liberally. A fierce clutch can often be improved by squirting a little paraffin over the lining.

M.S. (York).—Petrol-pipe connections and unions can be made tight with litharge or red-lead, but not with white-lead or paints. Ordinary yellow soap can be used in an emergency. On the exhaust-pipe joints use good shellac and graphite. It is advisable to tighten all exhaust joints periodically, otherwise the escaping fumes may enter the car and make driving unpleasant.

E.L.C.H. (St. Annes).—Do not attempt to solder up the leak in your petrol tank until you have emptied all the petrol, filled up with water and drained dry.

S.B. (Tonbridge).—The jet adjustment of the Capac carburetter on your 1921 G.N. is about three-quarters of a turn open. Tune for best efficiency a fraction of a turn either way.

CLUB ITEMS AND SPORTING EVENTS.

CLUB ACTIVITIES FOR 1927.

Annual general meetings, new committees and tentative plans for next year will soon be the order of the day, and we shall be very pleased to receive notification of changes of officers and the proposed programmes of individual clubs for the coming season. The name, address and telephone number, if any, of the secretary is important.

R.A.C. PERMITS.

The R.A.C. has issued the following closed permits:—December 26th—New Stockport and District M.C. and L.C.C., Reliability Trial. December 27th—Birmingham M.C.C., Christmas Sporting Trial. January 16th—City of London Motoring Association, Trial. January 28th-29th—Cardiff M.C. and C.C., Cardiff-Leicester-Cardiff Trial. January 29th-30th—Woking and District M.C. and C.C., Winter Trial.

CITY OF LONDON M.A.

The annual general meeting of the City of London M.A. was held recently at the R.A.C. There was a good attendance, and the following officers for 1927 were elected:—Vice-president, Mr. H. N. Edwards; chairman, Mr. J. Edkins; vice-chairmen, Messrs. E. E. Thompson and W. A. Riley; hon. treasurer, Mr. C. H. Godfrey. Mr. T. C. Coombs was re-elected hon. secretary. The following were elected as committee:—Messrs. F. W. S. Osborne, N. E. Hollis, H. B. Chantrey, S. C. Attwood, A. E. Field and L. M. Calvert. Following the election of officers, awards won during the past year were distributed.

Entry forms are now available from Mr. N. E. Hollis, 14, Blenheim Gardens, Cricklewood, for the London-Stratford-London Trial, to be held on January 16th. This event is open to car and motorcycle members of the following clubs:—Bucks County M.C., Egham and District M.C. and L.C.C., London Eagle M.C. and Watford A.C. The entry fee is 5s.

KENT AND SUSSEX L.C.C. DINNER.

The sixth annual dinner and prize distribution of the Kent and Sussex L.C.C. was held at the Spa Hotel, Tunbridge Wells, on Saturday, December 11th, the president, Colonel d'Avigdor Goldsmid, J.P., being in the chair. During the evening nine challenge cups and numerous medals were presented by the Mayoress of Tunbridge Wells. The toast of "The Kent and Sussex L.C.C." was proposed by the Mayor of Tunbridge Wells, who referred to the good road work done by the club in conjunction with the R.A.C. The toast was replied to by the chairman of the club, Mr. F. H. Chrimes, who stated that four speed events, a reliability trial and several social fixtures had been successfully run, whilst the club membership had increased and the financial aspect was very satisfactory. He announced the annual meeting had been arranged for January 8th, preceded by a lunch at 1 p.m. at the Spa Hotel. Mr. E. Hillary proposed the toast of "The Visitors," and Mr. G. Cooney, a vice-president, proposed the toast of "The President," which was drunk with musical honours.

There were about 65 present, most of whom had travelled 30 miles or more. At 9.45 p.m. the gathering adjourned to the ballroom.

WOKING AND D. M.C. AND C.C.

Applications for entry in the Woking and District M.C. and C.C.'s Night Trial should be sent to the clerk of the meeting, Mr. J. E. A. Chipling, 18, High Street, Woking.

FORTHCOMING EVENTS.

December 26.
Southport M.C. Southport-Scarborough-Southport Trial Starts.
New Stockport and D. M.C. and L.C.C. Reliability Trial.

December 27.
M.C.C. London-Exeter Run Starts.
Birmingham M.C.C. Christmas Sporting Trial.
Manor Park M.C. Run to start of "Exeter."

December 31.
Bucks County M.C. Dance.

January 8.
Wood Green and D. M.C. All Ladies' Trial.

January 13.
Woodford and D. M.C.C. Annual Dinner and Dance.

January 14.
Essex M.C. Annual Dinner and Dance.
Sutton Coldfield and N. Birmingham A.C. Annual Dinner and Dance.

January 15.
Catford M.C. Annual Dinner.

January 16.
City of London M.A. London-Stratford-London Trial.

January 21.
J.C.C. Yorks Centre. Annual Dinner and Dance at Leeds.

January 28.
Cardiff M.C. and C.C. Cardiff-Leicester-Cardiff 24-Hour Trial.

January 29.
Woking and D. M.C. and C.C. Winter Trial Starts.

February 1.
J.C.C. Yorks Centre. Annual General Meeting.

CHARITY MOTOR DANCE.

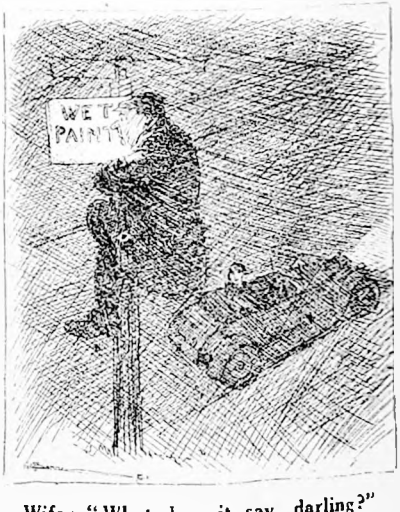
The second annual fancy dress ball organized by 12 combined London motor clubs will this year be in aid of the Royal Northern and Finchley Memorial Hospitals, and will be held at the Alexandra Palace, Wood Green, N., on January 28th. Tickets, 3s. 6d. each, may be obtained from the hon. organizing secretary, Mr. A. E. Cooke, 91, College Road, Kensal Rise, N.W. The dance will last from 8 p.m. to 3 a.m., and there will be unlimited free parking space.

PUBLIC SCHOOL M.C.

At a committee meeting of the Public School Motor Club, held on December 7th, Messrs. J. Politzer and C. M. Forest, 135, Queen Victoria Street, E.C.4, were appointed joint hon. secretaries, and they will be pleased to hear from past, present and prospective members at the above address. The annual dinner, with which is incorporated the annual general meeting, will be held early in the New Year, and at the same time a renewal of activities of the club will be discussed. Further particulars can be obtained from the secretaries.

ENFIELD CLUB DINNER.

enjoyed themselves and was a great success.



Wife: "What does it say, darling?"
Darling: "————! ! !"

SURBITON MOTOR CLUB DINNER.

WHEN two such genial souls as Prof. A. M. Low and Sir Sefton Brancker sit side by side at a convivial gathering, the one as chairman, the other as guest, things are bound to go with a swing. Sir Sefton certainly summed up the situation when, in a speech which will long be remembered by club members owing to its sparkling nature, he said: "This is the heartiest and most 'all out' dinner I have attended this year."

As usual the function was held at the Hotel Cecil, and about 200 members and guests were present—a record for a Surbiton Club dinner.

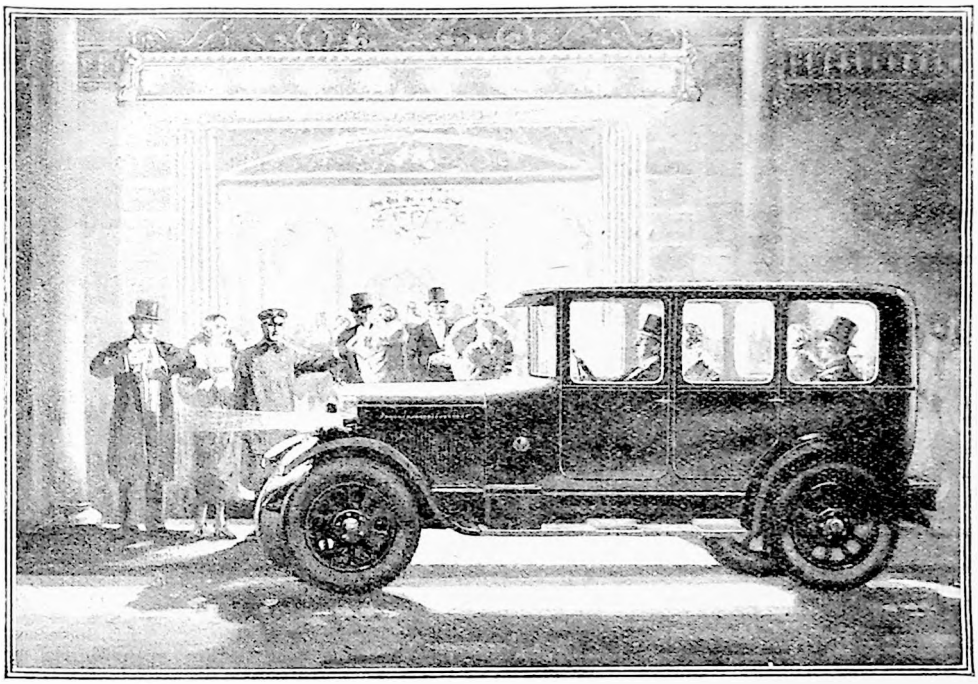
"The Club" was proposed by Prof. A. M. Low, who, addressing Sir Sefton as an authority on flying, pointed out the vast influence which motoring had had upon the development of aviation. Mr. F. W. Barnes responded. He shook his head sadly over the present state of affairs in the motor sporting world, but hoped that they would soon be able to sample the Brighton track. The toast of "The Visitors" was proposed by Mr. R. P. Clowes and Sir Sefton responded. He said he had been on swearing terms with Prof. Low for years, but he could not take quite the same view as the chairman concerning the development of flying. "Cars and motorcycles," he said with a twinkle, "were invented solely as a stepping-stone to flying. But they are old-fashioned and dangerous now as compared with aeroplanes."

Mr. Kaye Don proposed "The Ladies" (cries of "God bless them" and cheers), to which Mrs. Barnes was called upon to respond. Followed presentations to Mrs. Barnes, Miss Don and Mr. Kaye Don and the handing over of the Grand Cup by Mrs. Sigrist to Mr. Harmsworth, the winner.

The floor was cleared for dancing about 10 p.m. and was very fully occupied until the small hours of Saturday morning—exponents of the Charleston being very much in evidence.

Although he was "gliding" with the rest until well after midnight, Sir Sefton Brancker, Air Vice-Marshal and Director of Civil Aviation, was at Croydon at 3 a.m. preparing for his London-Karachi trip by air.

A CAR FOR COMFORT



COMFORT in a car is looked for to-day equally with performance and reliability—and no car can be as comfortable as a Saloon, particularly during the Winter months. A SINGER Saloon is built for comfort and will satisfy those motorists who are sensitive to the nicer things of life. Pneumatic upholstery covered in real leather, adjustable front seats, winding windows, four wide doors all locking, interior lights and dash light, draught-proof windscreen, pockets, ashtrays, roller blinds, hat rack, pile carpets—these and many other refinements are all to be found in the Singer "Senior" Saloon although its price is only £260—the biggest value to be found amongst British Saloons. The 1927 Singer Models present a choice to suit every purse and purpose. Dunlop tyres are fitted. May we send you full particulars? Singer & Company Limited, Coventry. London Showrooms: 202, Great Portland Street, W.1.

BIGGEST VALUE in BRITISH SALOONS

SINGER

H.P

AROUND THE TRADE.

A serious fire broke out at the premises of the Bowden Brake Co. last week and damage was caused to the extent of £40,000.

The Gillon lamp conversion set enables owners of pre-1927 Austin Sevens to alter the position of the lamps to the new situation on the front wings. It is marketed by Gillon Accessories, 149, Drury Lane, London, W.C.2.

The Mosaire special air valve is a fitment which makes its usefulness fully appreciated on a cold morning, for the design incorporates an easy starting priming tap. The makers are Messrs. Aldam and Co., Misterton, Doncaster.

We have received an illustrated folder from The General Electric Co., Ltd., Magnet House, Kingsway, W.C.2, describing the correct way to focus Osram anti-dazzle headlamp bulbs; the hints are equally helpful in the focusing of other types.

"Lessons from Olympia" is the title of an illustrated folder issued by David Moseley and Sons, Ltd., dealing with the combination of safety and comfort to be obtained by fitting Moseley ribbed tyres and Float-on-Air cushions to all makes of light car.

Messrs. Bernard Nicklin and Co., 160, Rolfe Street, Smethwick, make a useful accessory in the shape of the Rollo Tow Rope. It is 16 ft. long, weighs only 2 lb., and is claimed to be strong enough to tow a car weighing over three tons.

Skids are frequent this weather and battered and bent wings are usually the result. Messrs. Joseph R. Bramah and Co., 127, Devonshire Street, Sheffield, quote by return for their new D-section wings, which they not only make, but fit and paint, themselves.

Herbert Morris, Ltd., Loughborough, have sent us a copy of an attractive book dealing with Morris motor salvage cranes and other garage equipment. The text is profusely illustrated and some striking pictures show the many uses to which the crane equipment can be put.

Postans and Morley Bros., Ltd., Rollsamel Works, Birmingham, the makers of Rollsamel enamel, have published a free booklet dealing in simple language with car painting for amateurs. The company will be pleased to forward a copy upon application, but we understand that the supply is limited.

The comfort of the passengers should be especially considered now that the cold weather is setting in. Such articles as rugs, foot warmers, foot muffs and overshoes are greatly appreciated on a long run. A. W. Gamage, Ltd., Holborn, London, have a large stock of such accessories at very reasonable prices.

In a recent price list concerning the cost of retreading tyres issued by the Leicester Tyre Repairing Co., Granby Place, Leicester, the following prices are quoted:—710 mm. by 90 mm., £1 6s.; 27-in. by 4.4-in., £1 11s.; 28-in. by 4.95-in., £1 13s. 6d. These prices are now subject to a discount of 10 per cent.

Messrs. C. B. Frost and Co., Haydon Chambers, 83, High Street, Birmingham, are marketing a number of accessories especially suitable for Austin Sevens. These include petrol can carriers, bulb horns, spotlights, mirrors, running boards and so forth. The price of the single-twist full-tone horn is 15s. 6d. and the straight type 12s. 6d. Both types are well finished and can be easily fitted by the owner-driver to his car.

QUAINT QUERY.—No. 8.

Owing to Christmas publishing arrangements it has been impossible to judge Quaint Query No. 8 in time for this issue. The winner's name and address will be given next week.

READERS, NOTE.—It assists the small car movement and the advertiser, and ensures you prompt attention, to mention "The Light Car and Cyclecar" in your enquiries.

Fastest passenger machines under 1,100 c.c.

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