

The Light Car and Cyclecar

Founded 1912

The only Small Car Journal

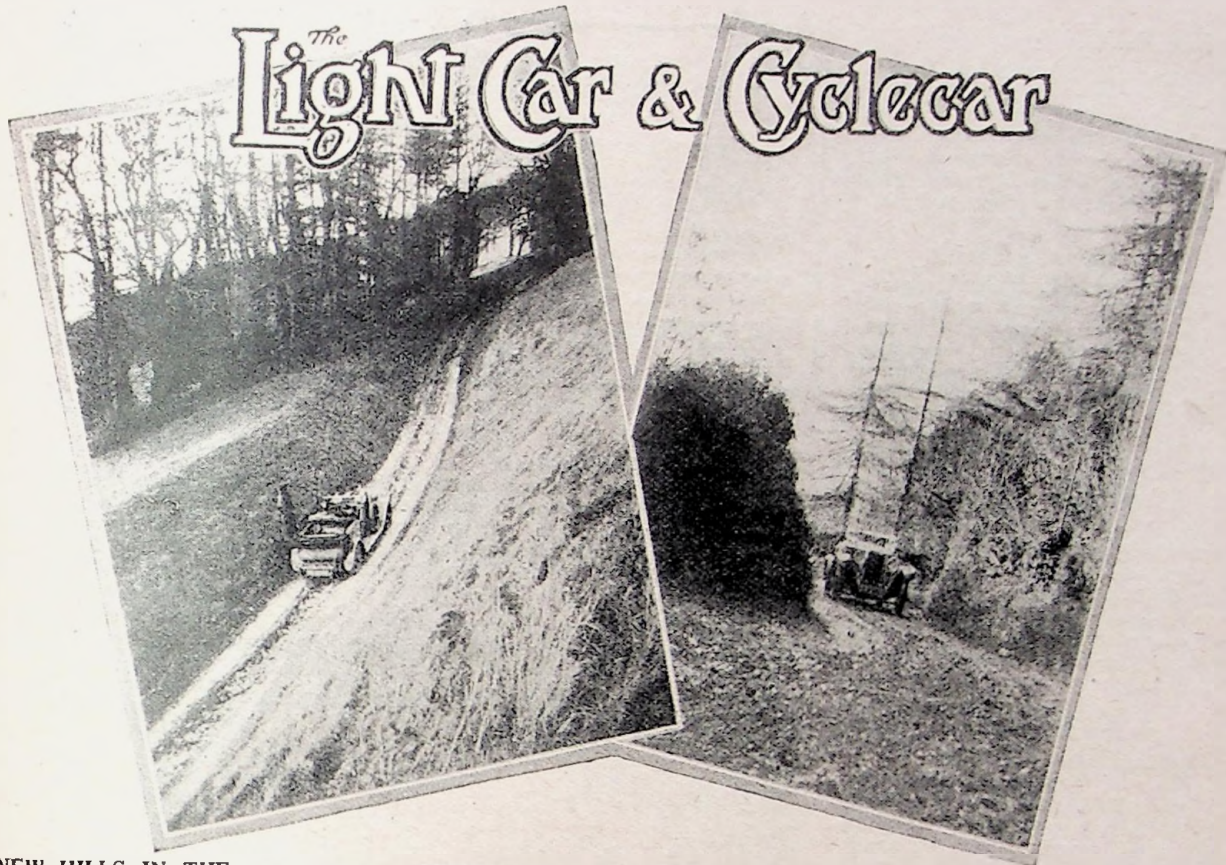
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Vol. XXXIII. No. 838
Friday, Dec. 28, 1928
*Registered at the GPO
as a Newspaper.*



IN SAVERNAKE FOREST.
On the Bath Road, between Hunger-
ford and Marlborough, the famous
deer park provides many such
splendid camera studies as this.

The Light Car & Cyclecar



NEW HILLS IN THE "EXETER." — (Left) Little Minterne—steep, slimy and slippery: a photograph taken near the summit. (Right) The appalling surface of the second corner on Harcombe.

NOTES, NEWS & GOSSIP *of the* WEEK

The "Exeter."

Jack Frost permitting, the first man home in the "Exeter" should reach Shaftesbury this morning at 11.45 a.m. The last car competitor is due to arrive at 2.41 p.m.

Lonely Roads.

As usual, we took a run on Christmas Day—just to endeavour to recapture the atmosphere which used to exist before cars became numerous and road scouts ubiquitous. Very nice, but it was better to see the scouts at their places again on Boxing Day and to meet other cars in fairly generous numbers!

This Week.

Have the days of the "good old-fashioned" hill-climb gone for ever? We trust not and, in our centre pages, we endeavour to make the spirit of Kop breathe again, and to rekindle the enthusiasm of those who were either responsible for, or who never failed to attend, the classic climbs that were held in different parts of the country. "Won't somebody find a hill on private ground?" That is the burden of our plea. If only such a venue could be found a new era in speed hill-climbing might commence. Another article of more than usual interest is entitled "Factors That Influence Design."

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LIGHTING-UP TIMES.

Saturday, December 29, 1928.

London	4.29	Edinburgh	4.15
Newcastle	4.15	Liverpool	4.31
Birmingham	4.31	Bristol	4.39

Moon—Last Quarter, January 2nd.

Thank Goodness!

Last Friday was the shortest day. We can now say fervently, "Thank goodness, the worst of the dreary winter is over!"

Your Licence.

All car licences expire on Monday next. Unless you intend to renew you are not entitled to take advantage of the fourteen days' grace.

Six-cylinder Cars.

Six-cylinder cars are now becoming increasingly popular, as witness the appearance on December 15th of an entirely new line of six-cylinder Chevrolet cars to take the place of the famous four-cylinder machines bearing this well-known name.

Next Week.

The London-Exeter was due to take place too late in the week for the inclusion of an illustrated report in this issue; special reference to the performance of the light cars and cyclecars will, therefore, be a prominent feature next week. The run has, of course, been altered in certain respects this year, notably in respect of the inclusion of new hills—two of which are illustrated in the photographs above. All the new hills were described last week.

Lord Cecil's Bill.

Some alarm has been caused in motoring circles by the fact that Lord Cecil of Chelwood's Bill—which was fully outlined in last week's issue—has been given a second reading. It should be understood that this action was taken on the clear understanding that it should be referred to the Royal Commission on Transport, and that therefore there is no likelihood of the Bill becoming law.

New Zealand Buys British.

Twenty-six British cars and chassis have just been ordered by the New Zealand Postal Department. Cars of British nationality have been in use in the postal services throughout New Zealand for a number of years. This is certainly a striking tribute to British goods.

How Germany Does It.

When a German motorist has a car for sale he may now submit his vehicle to a board of valuation which gives him a certificate bearing a full description of the old car, its condition and current value. The scheme, it is said, greatly facilitates the sale of new cars when the deal is arranged on a part-exchange basis.

Motoring on the Riviera.

According to information received from the R.A.C. office, Nice, the coast road from Nice to Monte Carlo is in very bad condition owing to work being carried out by the Post Office telephone service. Motorists are advised to avoid this road for the present and to travel by an alternative route.

The Ricardo Head.

Readers who are interested in problems of "hotting-up" should bear in mind the claims of the Ricardo power head. This is now available for several makes of car—including the Austin Seven, the price of the head being £6 5s.—and full details can be obtained from Sydney W. Lewis, Kingsway House, Kingsway, London, W.C.2.

Luxury Travel.

Even tricycle manufacturers are beginning to appreciate the need for all-enclosed vehicles. A tricycle is being marketed by the Pedeluxe Co., 4, Lower John Street, Regent Street, London, W.1. which has a pukka body, screen, sidescreens, hood, gear lever, hand-brake, foot brake, Klaxon horn (what will the Home Secretary say?) and even an instrument board. The interior is upholstered, the doors having side pockets, and allowance is made for carrying a small suitcase under the seat.



Useful Data.

The Standards Department of the Society of Motor Manufacturers and Traders has just issued data sheets showing the correct minimum inflation pressures in pounds per square inch to which tyres should be inflated.

Dorsetshire Improvement.

As the result of a new by-pass road, motorists need no longer ascend Timber Hill, the steep ascent from Lyme Regis on the Charmouth road. The new road is a very fine engineering feat, and involved the excavation of no fewer than 20,000 tons of earth.

First 1929 Trial.

The Edinburgh and District Motor Club is to hold a one-day open trial for motorcycles, sidecars and cyclecars on Wednesday, January 2nd. The route is approximately 85 miles in length, and the trial will start at the Cameron Toll Garage, Edinburgh, at 9 a.m. This will be the first big trial of 1929.

The Army and Motoring.

Recently, in the House of Commons, the Secretary for War was called upon to satisfy the curiosity of a well-known member as to the conditions under which an officer of the army may



ON THE ROUTE OF THE "LAND'S END."

(Above) Terse, but practical, advice. The sign has been erected on the steepest part of Countisbury Hill. (Below) Porlock Hill, which is to be by-passed—but not by M.C.C. competitors.



use his private motorcar upon official business. It appears that he may use his own car, with the approval of his superior officer, either in cases where the ordinary means of transport are not suitable, or for his own convenience where the public transport would be suitable. In the first case, the officer is paid a mileage allowance based on the horse-power of the car as follows: 4d. for a triear up to and including 8 h.p., 5½d. for a small four-wheeled light car, 6½d. for a four-wheeled car over 12 h.p. The 6½d. rate is granted only with due regard to the officer's rank and duties. After 7,500 miles have been covered on official duties in any one year, these rates are reduced to 2½d., 3½d., and 4d. respectively for the remainder of the mileage covered in that year.

In cases where public transport could have been used, the officer is allowed for the use of his car an amount equivalent to what would have been incurred had the ordinary means of transport been used.

Road Scheme Rejected.

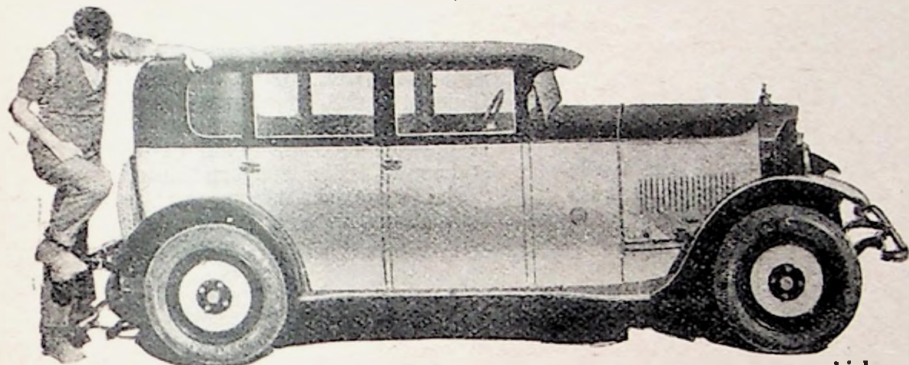
Westmorland County Council has rejected a £42,000 scheme to make a Lake District motor road over Hard Knott Pass.

Dearer Fords.

According to Reuter an increase of 60 dollars (£12) in the price of the Ford model A roadsters and phaetons has been announced in Detroit. The prices of other models are unchanged.

A World-wide Fashion.

An accompanying photograph shows a striking body mounted on a 9 h.p. Mathis chassis; it indicates that the fashion for low-built, high-waisted saloons is rapidly becoming world-wide,



A SOUTH AFRICAN PRODUCT.

An example of the coachbuilder's art which emanates from Capetown. The chassis is a 9 h.p. Mathis.

for the body was built entirely in the works of the Boag concern of Cape Town. Finished in violet and grey, with grey whipcord upholstery and a blue velvet carpet, it presents a very attractive appearance. Its low build is indicated by the height of the workman standing beside it.

START THE NEW YEAR WELL

By placing a regular order for "The Light Car and Cyclecar" with your newsagent. He will then deliver this journal with your other papers every Friday morning.

Export Figures.

Things are looking up. For the first time this year the export values of motor vehicles and parts thereof for November exceeded the million mark. The actual figure was £1,034,984, which is £77,977 in excess of the value for October.

I.A.E. Programme.

Prof. W. Morgan, of the Bristol University, has been elected president of the Institution of Automobile Engineers for next year. Sir Herbert Austin was elected to fill the vacant vice-presidency. At the next London meeting of the Institution Dr. F. W. Lanchester will read a paper on "Coil Ignition," whilst in a few weeks time Mr. M. Platt will read at Birmingham Four-wheel Braking Systems. Further details may be obtained by applying to the Institution of Automobile Engineers, Watergate House, Adelphi, London, W.C.2.

Pendle Hill Climbed.

One of the trickiest acclivities in Lancashire, Pendle Hill, has been climbed successfully by a Trojan.

The Sir James Percy Fund.

The Sir James Percy Fund is now getting on well towards the first £1,000. As we have already stated, the object of the fund is to perpetuate the memory of the late Sir James Percy by endowing in perpetuity the maintenance and education of a child at the Children's Home of the Motor and Cycle Trades Benevolent Fund. Subscriptions should be sent to Mr. Robert Willis, 23, Newman Street, London, W.1, who will be pleased to acknowledge any donations received.

F.W.D. Buses.

An experimental front-wheel-drive bus chassis has been put into service in Berlin by one of the most successful bus-operating companies in that city.



The latest "Robot"! A recent scene near Dunstable. The sign pivots on a pole stuck into an old tar barrel.

New Bridges in Lincolnshire.

Three bridges, which are described as veritable death traps to motorists in Lincolnshire, were recommended for demolition at the Holland County Council meeting at Spalding this week. They are Sharpe's Bridge on the Spalding-Boston main road, the new bridge to cost £5,000; Lamming's Bridge, on the Holbeach-Peterborough main road, the new structure to cost £6,000; and Clifton's Bridge, on the Sutton Saint James-Wisbech main road, where an expenditure of £4,000 is



TIME AND TIDE...

An Amilcar which was caught by the rising tide and had to be abandoned—but was subsequently salvaged, as shown—at Seaforth.

her of offenders was increasing proceedings were being taken. The magistrate said that this dangerous practice must stop and that in future similar cases would be dealt with more severely.

proposed. The various local authorities have offered to contribute towards the cost, while a substantial grant will be forthcoming from the Ministry of Transport.

Echo of London-Gloucester.

In our report of the London-Gloucester trial we described one of the competitors—Mrs. J. M. Taylor—as one of

The Six-Hour Race.

The B.A.R.C. will organize a Six-hour Race—on the lines of the E.M.C. event—on June 29th next.

Catching On.

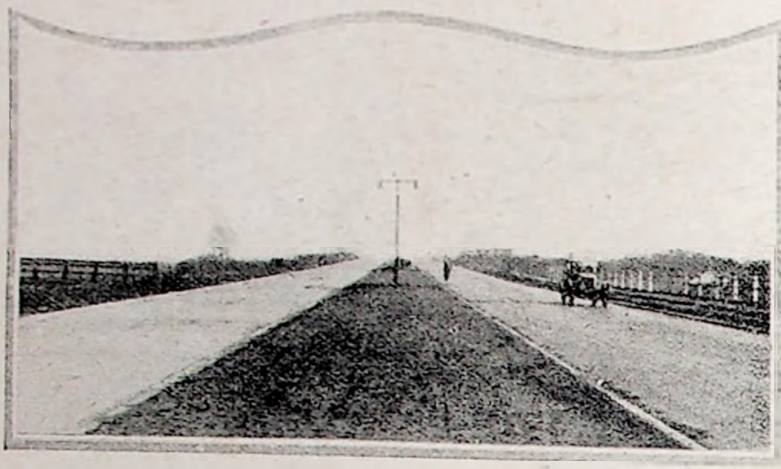
Dip and dip-and-twist headlamps appear to be gaining favour very rapidly. During a recent night run we observed that a large number of the cars which we met were fitted with these devices; further, the drivers were making proper use of them.

A Useful Idea.

In Belgium the "width indicator" is to be seen almost everywhere. It consists of a tiny reflector mounted on a small upright; one being attached to the extreme outside edge of each of the front wings. Besides acting as a guide to the driver who cannot, perhaps, clearly see his wing tips, the width of the car is plainly defined.

Insurance by Instalments.

A long-felt need is being supplied by Stuartson, Ltd., 101, Leadenhall Street, London, E.C.3, by offering motor insurance policies the premium for which is payable by four equal quarterly instalments. The concern announces:—"The motorist effects an insurance through us with a reputable company

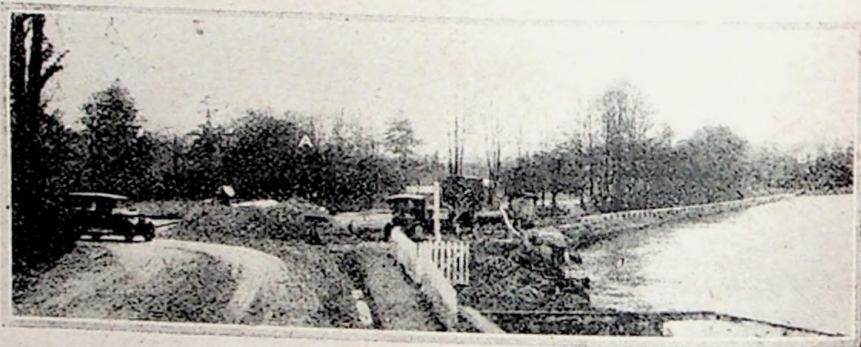


TAKING SHAPE. — The Southend road, near Wanslead, showing the newly completed "up and down" section with a wide footpath between the two roads.

the "unfortunates" who failed to finish. We learn from Mrs. Taylor's passenger that her misfortune in not finishing was due to her acting the Good Samaritan to the crew of another car who had come to grief on Bismore and who would have been stranded in the "wilds" had not Mrs. Taylor very kindly given them a lift home.

More Trams—Not Less.

Whilst many tramway systems are being scrapped that operated in Walthamstow, London, is being extended. Hitherto, a single line, with loops for passing, has been used on the final section of the route serving part of Woodford, Essex; now, however, a double track is being laid and as the road, in addition to being none too wide, passes the beginning of the Southend arterial road at Woodford, special care should be exercised at this point by all drivers.



A WELCOME BY-PASS. — A loop on the Runnymede road between A and B is being by-passed. The new road will be welcomed.

"Double-Twelve" Regulations.

It is anticipated that the regulations for the British Double-twelve-hour race of the J.C.C. will be available next week.

and, instead of paying the full annual premium immediately, he pays the premium in four equal quarterly instalments without any additional cost. We finance the premium to the insurance company, retaining the policy as security until the full premium has been paid to us."

London-Gloucester Awards.

The provisional car awards of the North-West London M.C.'s London-Gloucester-London Reliability Trial, held on December 5th, are as follow:—

Special silver cup, for amateur entrant making best performance: G. W. Gemmell (Lagonda). Silence award: R. J. G. MacHugh (Morris Minor). Complimentary award: E. G. Farrow (official car). Team award, Class B: G. W. Gemmell (Lagonda), W. J. Haward (Bayliss Thomas), and Miss Milne (Austin).

First-class Awards (Silver Cups or Club Tankards): R. T. Horton, J. J. Ramsay, W. J. Haward, Miss L. M. Roper, Miss V. Worsley, Mrs. O. W. Clayton, C. H. Lawford, W. L. Watson, M. W. B. May, A. H. Williams, R. W. Bellamy, B. P. W. Twist, J. E. Barkby, C. Moss-Blundell, W. H. Julian, G. B. F. Reece, N. W. Rae, Miss Joy Sander, R. M. Andrews.

Second-class Awards (Silver Spoons or Silver Medals): G. C. Harris, H. J. Vidler, A. J. Mollart, Miss M. V. Milne, H. J. G. MacHugh, G. W. Olive, L. T. E. Clark, S. R. A. Cooke, R. H. Hannan, Hon. Mrs. Chetwynd, C. L. Guiver.

Third-class Awards (Bronze Medals): A. C. Maskell, H. G. King, G. F. Hyams, G. H. R. Chaplin, A. J. Whitmore, E. G. Bates, L. A. Walton, V. H. Tuson, G. E. Taylor.

Fourth-class Award (Certificate): J. S. Thurlby.



SEASONABLE, BUT—

A scene, just before Christmas, on the mountainous route over the Pennine Range between Huddersfield and Woodhead, when the road, in places, was icebound.



IF IT BECOMES LAW. — Viscount Cecil of Chelwood recently introduced a measure in which he made several drastic proposals. Our artist has endeavoured to depict what may happen should Lord Cecil's Bill become law—which is very doubtful.



A Very Modern Short Story With
a Clever Theme Deftly Handled.

By C. E. T. MILNER.

JUST because English manhood has changed its dress from armoured-steel suitings to plus-fours, it does not mean that we are any the less chivalrous and romantic. What I mean is that though times may change and customs alter, Love goes on for ever! It is so, I know. If you can spare time and patience to wade through all this you will agree with me, I feel sure.

You see, I had been stationed out in India for Lord knows how many years (anyway, it was a long time, for when I left jolly old England you daren't take a girl out in a car if you didn't love her in case you had a breakdown and couldn't get back the same day and were therefore forced to marry her), and while acting as an outpost of the Empire I kept in touch with things in general, and motoring in particular, by reading all the papers I could get.

It was in a well-known motoring weekly that I first saw her photograph. She was standing beside her little two-seater, and she had sent the picture to the Editor with a nicely written little letter (which was published beneath the snap), stating how she had put up an average speed between London and York that must have made poor old Turpin turn in his grave.

She looked so sweet, somehow, standing beside her car, that my heart accelerated violently. In the stress of the moment I sowed the seed of my one and only Romance.

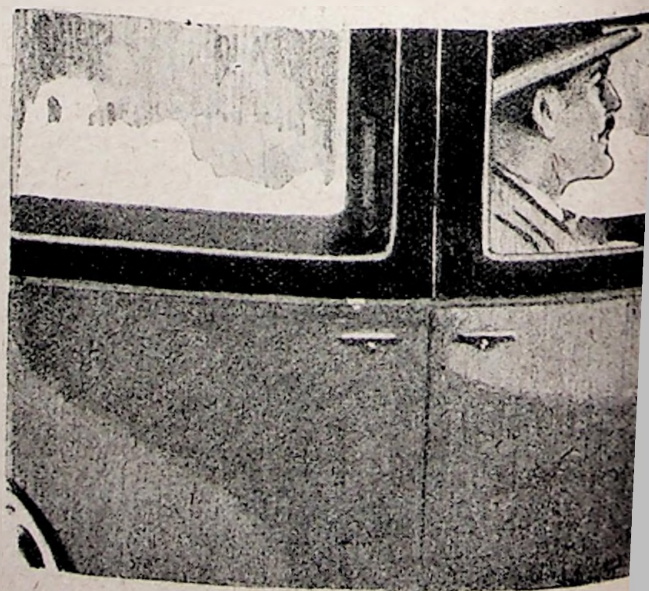
I seized a pen and wrote to her, care of the Editor. Of course, it was purely a motoring letter, complimenting her upon her wonderful feat (I had to turn that word up in the dictionary in case I spelt it wrongly), telling her how lonely I was, and explaining what a hard time we Empire-builders had. Naturally, I finished by asking her to write me if she could find time.

It seemed ages until the reply arrived, but at last it turned up and very nice it was—just sufficiently intriguing to be nice. I felt quite

excited over it, and, as is usual with me when under an emotional stress, I had another brain-wave. I knew our C.O. was at the tennis tournament, so I slipped across to a pal's bungalow and got him to come along with his camera. We went to the C.O.'s garage and he took a snap of me at the wheel of the Vauxhall.

We slipped off before the nosey old "syce" who looked after it awoke, and sent the film to be developed. It came out topping! I looked as though I owned the car and promptly sent it to Marion—which was the name of the dear little soul.

In due course a letter reached me in reply containing a lovely photograph of herself, and by what I could see I was on a good thing—she was a proper sports model. Then my leave came along, and I wrote and told her that I was going to take the liberty of calling upon her when I reached old England.



First I went to my old friend Cox—my banker, you know—and after a lot of tough mental work decided that I could buy a car. It wasn't quite as posh as the Vauxhall, but I could easily explain to Marion that the cost of shipping it—Customs duties and all that—was too big an undertaking.

The new car looked quite a decent little turnout and ran well, so that it was with an easy mind and a light heart that I set out on Christmas Eve to call upon my dear one. I had not written to tell her that I intended to call that day. It seemed so much more like the warrior's return and all that sort of thing to drop in casually—"From India, you know!"

It was late in the afternoon that I finally found her home—a lovely old place nestling among trees and some thirty miles out of London. Strange to say, all that courage that makes me a noted man in the regiment left me when finally I found myself outside her door, so to speak. In fact, to put it mildly, I was in a blue funk. I drove up the road, turned and drove back, but again had not the pluck to stop. This was no good. I must collect myself.

I drove on a little way to pull myself together and seeing a convenient gateway, turned in to reverse the car, but first stopped in the gateway and lit a cigarette to steady my nerves.

My purchases were all O.K. The chocs. were on the seat beside me and the mistletoe was in the roof. This time I was going to CALL—I HAD MADE UP MY MIND.

With these brave thoughts in my head I reversed out into the road. . . . There came a confused medley of sounds—the shriek of brakes, the roar of a horn, the squeal of tyres on the road—and a BUMP.



"You daren't take a girl out in a car if you didn't love her."

With my heart in my mouth I looked back from the driving seat and then climbed out of the car.

A two-seater had swerved violently in trying to avoid me, skidded on the wet road and, on its journey to the ditch, had removed my near-side rear wing.

But it was the driver who really took my eye. Seated in the ditched car, her face white, but her eyes blazing with righteous anger, she looked even prettier than the photo! I should have known her anywhere. At last I had found my Ideal. Pull-

ing myself together, I stepped across to her car, hat in hand.

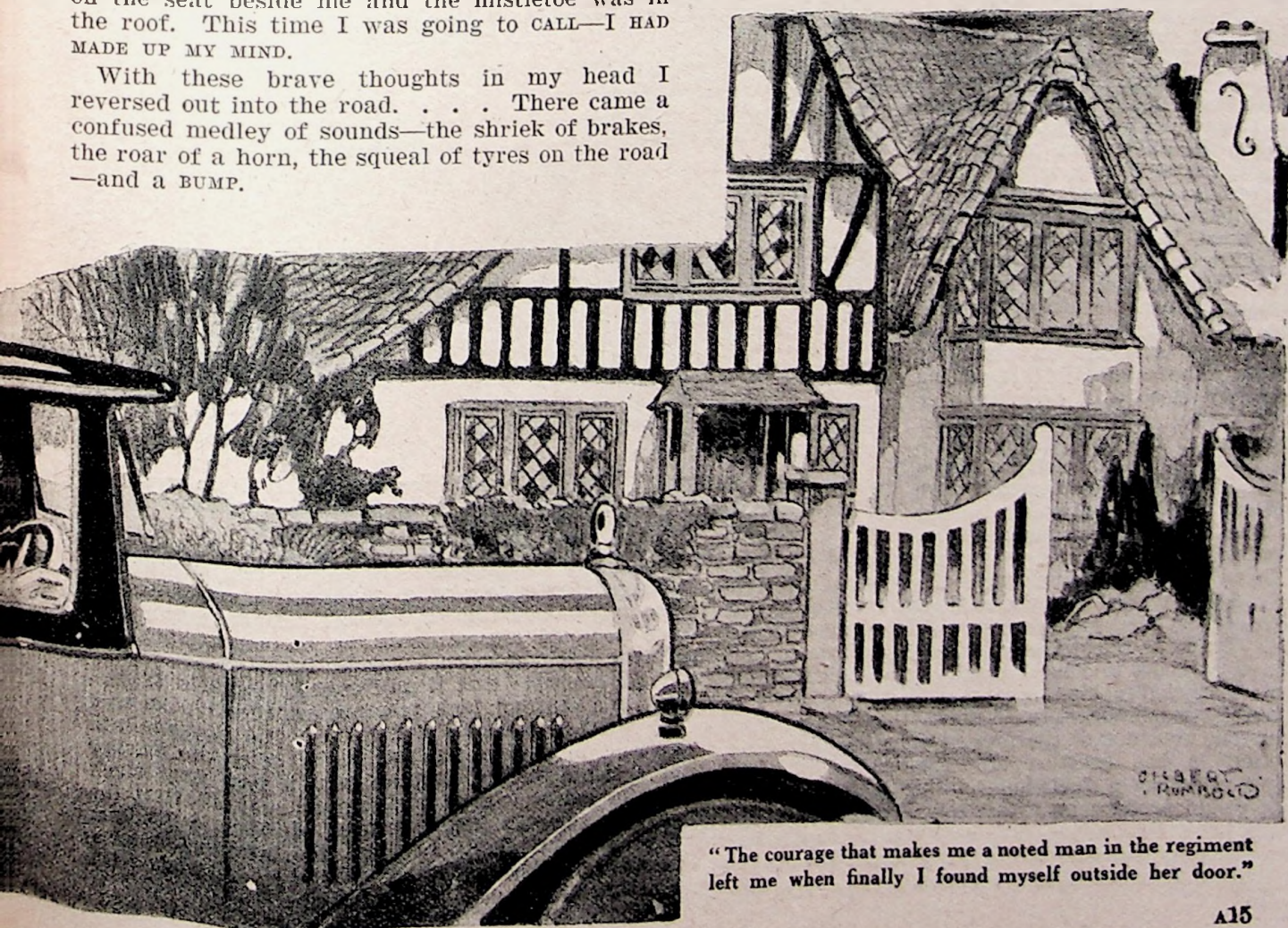
"I'm most awfully sorry—it was entirely my fault," I began. "It was ridiculous of me to reverse out like that with no warning. Do tell me you are not hurt?"

She breathed deeply for a moment and then, as my ardent gaze met hers, she answered, "No, I am not hurt; only shaken. But you were certainly a little lacking in intelligence to sweep out of a gateway like that without warning."

I nodded dumbly, then asked, "You must let me drive you to your destination and then arrange for your car to be put right. May I?"

She nodded slowly, then smiled.

Eagerly I opened the door of the car for her to alight, and was given a glimpse of two delectable silk-clad legs. As she stood beside me on the road her head barely reached my shoulder. She



"The courage that makes me a noted man in the regiment left me when finally I found myself outside her door."

looked up at me quickly from beneath the brim of her close-fitting little hat, and the glance I received set my pulses racing. I was lucky!

Dumbly I opened the door of my bus and invited her to enter. To do so she pushed the box of chocolates farther up the seat, and at that moment her eyes encountered the jolly old slip of mistletoe. Her eyes were lowered demurely and I saw that tiny smile playing around her lips again. Slamming the door, I trotted around the back of the bus and entered the driving seat. As that door slammed shut I could contain myself no longer.

"Dar—— Mar—— De—— Marion!" I gasped. "I've loved you from the first snap—ever since you wrote all the time out there in India. I—I—I'm mad about you. I was coming to see you to-day. I'm so glad I—you—we ran into each other—aren't you?"

For a second she gazed at me in amazement and then laughed quietly. "So you are Toby?"

"Yes!" I gulped eagerly. "Do you—can you——"

Again that slow smile. "You had better ask Marion," she said. "I'm her mother!"

PROPULSION BY REACTION.

SOME little time ago considerable interest was awakened in the motoring world by the news that the German motor manufacturing concern of Opel was experimenting with a car propelled by rockets. The vehicle was actually made and tested, but owing to various technical difficulties did not prove a success.

The moving spirit behind the rocket propulsion idea is Herr Volkhart, who, in an interview recently with *The Light Car and Cyclecar*, expressed the opinion that the idea was entirely workable, but that, naturally, a certain amount of experiment would be necessary before cars of this kind became practicable—if only for high-speed attempts. The illustration accompanying this article shows the latest Volkhart rocket car, which has already been tested and proved itself much more satisfactory than its predecessors.

Hitherto the aim of the designer was to achieve exceptionally high speeds, but in the present design comparatively normal speeds are being attained, so that experience can be gained and data prepared which will enable fast machines to be built. The whole problem consists, of course, in designing the rockets so that the burning explosive shall produce sufficient reaction against the atmosphere to drive the car, whilst at the same time being reasonably controllable.

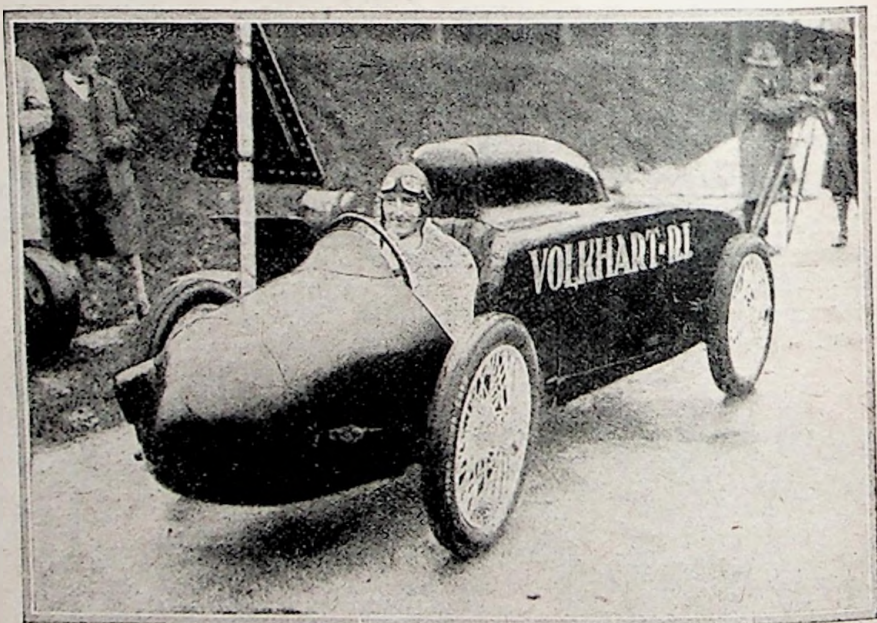
Although, so far as motorcars are concerned, it is probable that Herr Volkhart is the first man to experiment with rocket propulsion, reaction against the atmosphere has been used at various times previously as a means of obtaining power. The original steam turbine made by Hero of Alexandria over 2,000 years ago, was a reaction machine, as the jets of steam issuing from the special orifices in the boiler impinged upon the atmosphere and caused the apparatus to rotate. It is said that in this manner Hero obtained sufficient power to open the gates of a temple.

So far as rockets as a means of propulsion are concerned, however, it was not until somewhere about the 17th century that experiments with them were carried out. Then a scientifically minded clergyman harnessed a rocket to a model boat, and with it achieved some remarkably high speeds on a lake, somewhere about 60 m.p.h. being, we believe, the figure. More than one scientist of the present time has interested himself in the question of designing an "engine" using petrol as a fuel, but burning it in a manner that would produce an excessively high pressure, the products of combustion escaping from the nozzle and propelling the machine to which the engine is attached by means of atmospheric reaction.

A16

The ability to produce a continuous and, of course, controllable pressure would solve the greatest problem connected with reaction propulsion. With the rocket system, of course, there is no control, each rocket as it is fired developing its maximum pressure almost instantaneously, and, after burning for a time, losing it equally suddenly. At this moment, of course, the next rocket in the series must be fired in order to maintain the speed.

It will be seen, therefore, that, apart from the inconvenience and danger of the rocket gases being ejected from behind the car with immense heat and velocity, the fact that the control of the vehicle becomes difficult puts it entirely out of court as a means of locomotion upon normal roads. This, however, would,



AN INTERESTING
EXPERIMENT.

Herr Volkhart, the pioneer of rocket-driven cars, — experimenting in his latest machine. Successful results have been achieved.

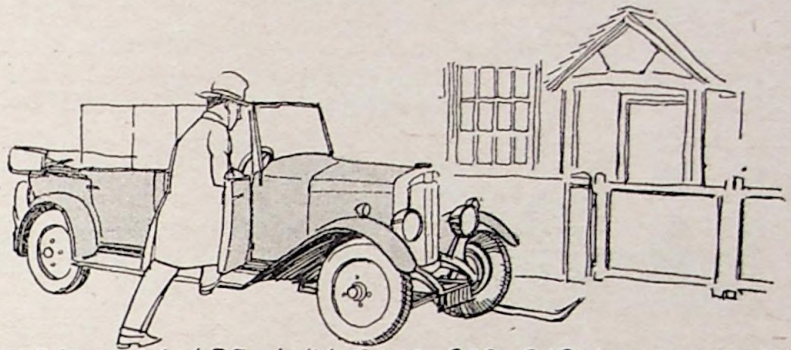
presumably, be the case even with a continuous pressure reaction apparatus, as the draught created would not only be equal to that of an aeroplane propeller, but it would almost inevitably be accompanied by intense heat and somewhat dense fumes.

It is probable that if an "engine" capable of producing a constant high pressure which could be used for reaction purposes is invented, the pressure will be used to impinge against blades, after the manner of a steam turbine, because in this way very much greater power can be produced than by allowing the gas pressure to impinge upon an elastic medium like the atmosphere. In short, the introduction of a constant pressure generator will be synonymous with the introduction of the gas turbine.

"SNOW" USE GRUMBLING!—



"NO DRAWINGS ARE ANY GOOD FOR CHRISTMAS NUMBERS UNLESS THEY ARE SNOW SCENES" SAID THE EDITOR LAST YEAR. "NOTHING LIKE SNOW!!!"



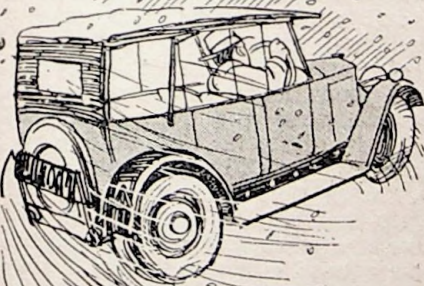
THEN HE STARTED



ON HIS CHRISTMAS HOLIDAY



AND SNOW



AND ICE



WERE EVERYWHERE.



HIS JOURNEY



ENDED UNFORTUNATELY.

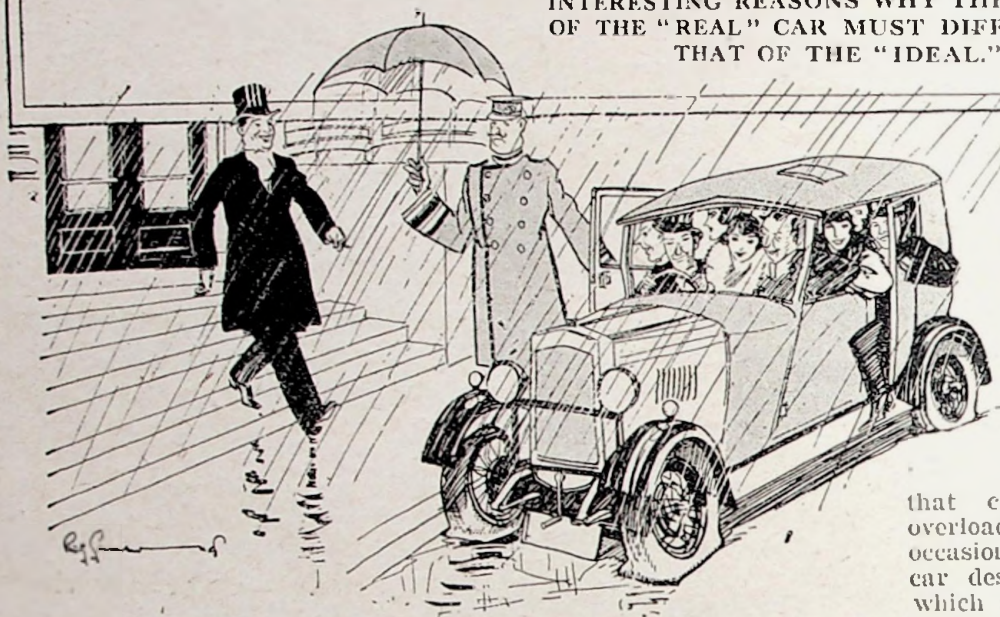


"THIS YEAR I BROUGHT IN SOME MORE SNOW SCENES!"

Reg Lamm

FACTORS THAT INFLUENCE DESIGN.

INTERESTING REASONS WHY THE LAYOUT
OF THE "REAL" CAR MUST DIFFER FROM
THAT OF THE "IDEAL."



The four-seater of the designer may become the ten-seater of the owner.

NO designer has ever been able to produce what he considers to be the ideal car, because in every case he has had to make concessions to forces outside his control. He has to consider the foundry, the psychology of the workman, the plant and capital at his disposal and, above all, the failings and limitations of his customers. Long before he has reached the eminence of designer he will, undoubtedly, have had considerable experience with car users, and he will have come to the conclusion that about 70 per cent. of them know nothing about cars and want to know nothing. These folk present difficulties, but they are not nearly so formidable as those presented by the small band of users who know nothing but think they know all, and consequently subject his cars to gross abuse.

Laymen visualize a designer as a man with a slide rule who calculates the size of every nut, bolt and single fitting in the car. Every designer uses mathematics to a great extent as a guide to design, but after he has calculated the size of every important bearing, nut and shaft in the car he must make allowance for those unknown forces with which he will have to grapple, and it is in making these allowances and not in the preliminary calculations that his skill lies.

Let us consider a simple case, such as front hub bearings. It is possible to calculate the load due to the weight of the car and the forces involved in cornering at speed and in braking, but what the designer cannot calculate is the shock put on the hubs by the driver who is too lazy to keep his tyres inflated to the proper pressure, or who is so careless that he runs the side of the wheel against the kerb when he brings the car to rest.

Then, of course, there is the minor accident that every driver experiences. At some time or other most drivers have struck some obstruction like an extra deep pot-hole or a brick lying in the road. An obstruction of this kind will transmit a tremendous shock to the hub bearings, but woe betide the designer if they "fold up" under the impact.

Rear-axle design also presents difficulties because a tendency towards chronic overloading is a failing common to nearly all car owners. By this it is not suggested

that car owners habitually overload, but they do so on occasion. Who has not seen a car designed to seat four in which six or seven have been loaded on a wet night after a dance? Ancient sidecar combinations made a decade ago to carry two are to be seen chugging along with three adults and a child aboard, and popular small cars, planned for two adults and two children, are often observed with four adults in them, although how they manage to squeeze in passes comprehension.

Actually the designer allows a margin for this kind of maltreatment, but he must use a great deal of discretion in making his allowances, for it is amazing how much extra weight and cost is added to the car by the thickening up of one small part.

To demonstrate the evil effects of thickening up parts to resist extra loads let us assume that it is decided to strengthen the rear-axle shafts, which are $1\frac{1}{2}$ in. diameter, by adding $\frac{1}{8}$ in. to their diameter. "Only one-eighth," says the layman, "why, that is scarcely anything." But he forgets that it adds nearly 5 lb. to the weight of the shafts themselves and probably puts up their overall cost (including overhead charges) by three or four shillings.

What is more important is that a bigger shaft involves bigger bearings, and these, in turn, require bigger and heavier housings. A modification such as this may involve the entire re-designing of the rear-axle unit, and

when the whole range of necessary alterations are complete the rear axle may weigh anything from 10 lb. to 20 lb. more. Even this amount is but little and the £1 or £2 extra cost that it involves is not formidable, but if the process is continued all through the car the weight can easily be put up a hundredweight,

which will make a surprising difference in the performance, especially on hills; and performance is, as it rightly should be, one of the main standards by which the car is judged.

Of course, the designer may employ "fancy" high tensile steels to take care of the extra loads imposed on the car by thoughtless owners, but here he comes up against the production manager and the buyer, who both have a partiality for that very useful material known as mild steel, because this costs round about 2d. per pound, cuts like butter and is in every way an ideal metal to use.

Unfortunately, however, it is scarcely strong enough



"Standing on the cylinder head."

to meet the exacting demands of modern cars, except for those parts which are not subjected to a great deal of stress. Some of the alloy steels that look very attractive on paper and are twice as strong as mild steel are very expensive to buy, present difficult machining problems, and their heat-treatment processes are more suited to a laboratory than to a mass-production factory. The selection of alloy steels must be undertaken with great care, and here, again, good judgment is called for.

Strength and Load.

In some cases the strength of the parts is not judged by the loads that they will be called upon to bear during use, but those imposed during the process of manufacture and overhaul. Water jackets around cylinders have to resist only a very small pressure of liquid, but they cannot be made much less than $\frac{1}{2}$ -in. thick for the simple reason that the foundry cannot cast the metal any thinner, and, moreover, at some time or other some thoughtless person will undoubtedly stand on top of the cylinder head to fix an inspection lamp socket into an electric light holder, or for some other purpose.

When nuts and bolts have to be considered, especially those which are temptingly accessible, they have to be designed with an eye on the man who is not satisfied with the standard set of tube spanners and tommy-bars, but who, whenever possible, slips a yard of gas barrel on to the end of the tommy-bar and applies all his weight on the end of it, regardless of the fact that this gives him a leverage four times greater than is actually necessary. Consequently he is putting four times as much load on to the bolt as he need.

In many light small parts the thickness is regulated by the machine shop. A small collar, such as a valve collar, which is in no place less than 3-32 in. thick, is easy to produce, but if it is required to be made 1-32 in.

thick it will distort badly if the full pressure of the lathe tool is used against it; consequently the

"Exceptional top gear performance."

final turning operation has to be undertaken very slowly, with the result that the labour cost is increased. Very thin and weak parts are also likely to be bent during transport from one department to another and during assembly, causing quite a considerable number of them to be scrapped.

Realizing that comparatively few car owners care to make full use of the gearbox, the sales department usually make a fetish of top-gear performance, which nowadays appears to be allowed to overshadow everything else. The designer is, therefore, compelled to modify his ideas of efficiency. He must use a far lower compression ratio than is actually desirable, because low-compression engines are not so prone to knock and labour when maltreated by being driven too slowly in top gear. He must cut down the power of his engine by reducing the cross-sectional area of his induction system and by overheating it so that the carburetter can give a pick up from a very slow speed without a flat spot and without spluttering.

If he had his own way he would fit a high top gear and a four-speed box so that on flat roads the engine could drive the car along at high speed without fuss and, incidentally, with a reduction in fuel and lubricating oil consumption. But he knows that many drivers are comparative novices who cannot even

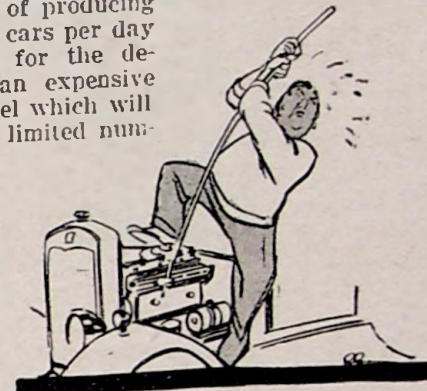
handle a three-speed gear really successfully, hence he cuts out that delightful "flying top" gear and makes what he originally intended to be his third gear serve as the top.

In doing so he probably produces a car that he dislikes but one which enables the salesmen to work off their time-honoured story which commences with the words: "Certainly, madam; perfectly simple to drive. Absolutely everywhere on top gear." The designer loathes that story, and even the salesmen do not like it; but it sells their firm's cars and provides the wherewithal to pay their salaries.

Price and fashion, also, set limits to the design, as does the plant with which the car is made. If the factory is capable of producing a large number of cars per day then it is useless for the designer to evolve an expensive de luxe sports model which will appeal only to a limited number of buyers.

He must cater for a market that will, at least, be sufficiently large to keep his factory fully and profitably occupied, because the company's shareholders are not interested in cars but only in dividends.

Mass production and highly skilled hand fitting cannot be carried on side by side; hence, mass production is the only method by which inexpensive, and, at the same time, dividend-earning cars can be produced.



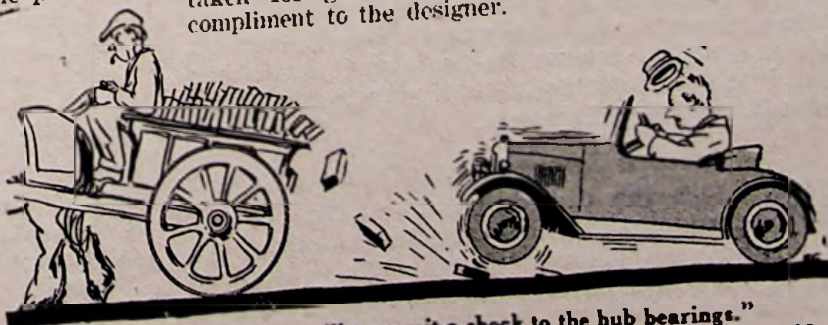
"Not satisfied with standard spanners."

Unusual Designs.

Some designs demand rather unusual methods of manufacture and these are, naturally, taboo. The designer may, for instance, desire to incorporate welded-up steel cylinders, such as are used on aero engines, because they are undoubtedly light in weight, but their manufacture involves the use of tools not usually seen in an automobile factory. Furthermore, a design of this kind would also necessitate the scrapping of the very expensive plant that has been installed for dealing with cast-iron monoblocs. This is not intended to infer that steel cylinders are better than those at present used, but merely to show that the idealistic designer has to temper his ideals to suit commercial necessity.

Fashion now demands that a car shall have a tall, narrow and long bonnet, hence certain types of engine are ruled out of court. The designer may show a preference for a well-balanced, horizontally opposed four-cylinder, a 90 degree Vee-type eight-cylinder, or a radial engine, but these could not be housed under the fashionably shaped bonnet, and, nowadays, unfortunately, the buying public is far more interested in the bonnet shape than the quality of the engine that is housed beneath it. That is taken for granted, which, in a way, is a subtle compliment to the designer.

H.



"An obstruction . . . will transmit a shock to the hub bearings."

A19

Rich Mixture



LIGHT CAR COMMENT
ON ADVICE BY 'Focus'

A Comforting Thought.

ALTHOUGH snow may be falling and roads impassable when you read this, we can congratulate ourselves upon having so far got through the last months of the year very well. Let us not forget that the shortest day has passed and that lighting-up time already is getting later every day. It is a comforting thought—sufficient to bring visions of spring evenings, with the birds piping and the open road beckoning us over the hills and far away!

Already I have heard a thrush tuning his notes, and before long I shall be speeding towards the Cotswolds, where I know gardens that show primroses in January. So, although the worst of the winter may be before us, let us imagine we hear the pipes of Pan whistling with the wind in the chimney, for assuredly he will soon be calling us to join him amongst the bluebells of spring.

How Slippery?

READERS sometimes write and ask me how, when they are driving along, they can discover whether the roads are slippery or not and so make up their minds whether it is safe to speed up a little. Those of us whose motoring experience goes back some years rarely find ourselves faced with such a problem because, even if the appearance of the road is not a sufficient guide to its slipperiness or otherwise, a twitch at the steering wheel, without reducing speed, will tell us all that we need to know about it.

The only more definite tests of the state of a road surface which I have been able to suggest are slowing down to about 10 m.p.h. and then applying the hand brake hard with a view to ascertaining how readily the wheels are locked or, alternatively, slowing to a crawl and then accelerating violently in first gear to see if the wheels can be made to spin.

Modern Improvements Flawed.

DESPITE the draught-proof qualities of our modern closed bodies and the excellence of present-day windscreen wipers, there is still one set of circumstances when driving a car that calls for the fortitude of the helmsman of a sailing ship

A20

in the Arctic regions. I refer, of course, to those dreadful occasions when the countryside is made fairylike with rime, when a frosty mist hangs around the hedge-tops and when nothing can prevent the windscreen being made opaque by frost.

On such days a windscreen wiper is of no avail, and there is nothing to be done except to clean the front of the glass by hand at intervals of a mile or so or to throw open the screen and brave the elements. And how ill-prepared we find ourselves for facing the keen edge of a frosty December morning after the coddling of the past few seasons! I write with feeling after a run of 50 miles behind an open screen with my eyebrows matted together with solid lumps of ice.

In Demand?

AN American paper which I was looking through a week or two ago contained an advertisement of an electrical heating element, not unlike a windscreen wiper blade in appearance, which is intended for fitting tightly against the inside of the glass and which in very frosty weather can be made to warm the glass and so allow the windscreen wiper to be effective. To the best of my knowledge this accessory has not so far made its way to our shores, but I should imagine that any dealer who imported a supply could depend upon sales being quite reasonably brisk. Such a fitting is not needed in this country many times during the year, but when one does want it one wants it very much indeed.

Most gadgets of this kind naturally spring from the other side of the Atlantic, where the weather conditions in the north are, of course, very severe during several months of the year.

For the Brewers.

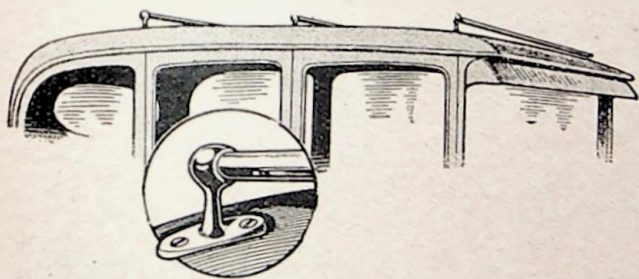
THIS is not a political column; all the same, one cannot refrain from expressing astonishment at learning that among the concerns that will benefit through the de-rating scheme, which is financed through motorists' money, are—brewers! A brewing firm I know has just made a profit of £150,000, yet according to the information at my disposal they will be the chief bene-

ficiaries in their particular town from the Government scheme. Where in the name of Mr. Baldwin, Mr. Winston Churchill and the rest is the sense or justice in this? Surely, if the Government, through the petrol tax, have money to give away it should go to industries or areas that really require it and not to swell the profits of Bung!

It is bad enough for the average motorist to realize that with every mile he travels he is paying over money to brewers; to a teetotal motor owner the position must be intolerable.

Careless Wiring.

ONE still hears far too many complaints of trouble with the electric lighting equipment of cars which are two or three years old. Batteries, in view of the arduous nature of the work which they are called upon to do, may be considered to be privileged to show signs of old age after this period, but wiring cannot be so excused. I make these observations after having noticed that several 1928 models do not appear to be wired up in a manner that is likely to give even as long service as that of 1925 and 1926 models. Armoured cables were few and far between at the Show, whilst many connections were to be noticed, particularly those appertaining to rear lamps,



"Focus" contends that rails on the roof of a small saloon would be appreciated by folk who use this type of car.

which looked as though their life would be exceedingly short.

Not enough rear lamps nowadays provide adequate support for the end of the cable, so that a little carelessness when the car is being cleaned or when the luggage grid is in use can result in the cable pulling out of the lamp and possibly causing a great deal of inconvenience. All lighting connections, in my opinion, should be designed to give at least five years' reliable service under the most arduous conditions. How many modern light cars can claim to be so provided for?

A Useful Fitting.

WHO will be the first accessory manufacturer to market rear quarter bumpers connected together by a well similar to a spare wheel well but much deeper and rectangular instead of half-round? Such a well would provide a splendid compartment for carrying one or two suit cases, and would serve, in addition, to improve the appearance of a car by hiding all the ugly underneath parts which are often so obtrusive from behind.

I can picture quite a simple type of fitting of this kind which would weigh very little, and which would be a great deal more useful, and certainly no more costly, than the conventional type of luggage grid. It would not need to be very deep nor

would a lid be strictly necessary, the aim being to supply something which is better and safer than a grid but lacking its many disadvantages. On some cars, of course, the spare wheel might be in the way, but this objection would not have by any means a universal application.

For Luggage.

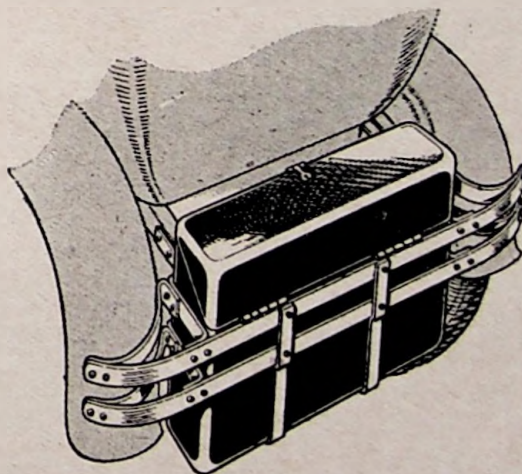
WHILST discussing the carrying of luggage, I feel prompted to suggest that many buyers of small saloons would like to have some means for carrying articles on the roof. One often sees proud householders ruining their upholstery by packing a bundle of fruit trees, a pair of steps or other similar bulky object inside the car when the roof obviously would be the proper place for them.

I do not suggest, of course, a reversion to the very heavy ugly slatted roofs of a few years ago surrounded with elaborate forged ironwork, but the provision of a transverse rail at the front, in the centre and at the rear, on which bulky objects could be lashed, would make many of our cars a great deal more useful than they are at present.

The foregoing reminds me of a very small 10 h.p. chummy model which I saw about a year ago being driven by its proud owner who had as a passenger a full-sized wheelbarrow!

When Starting Up.

NOT everyone seems to be aware that starting up, either by hand or with the starter, is very much easier if the clutch is held out whilst the engine is being turned. At a station garage on a very cold night last week I found a man trying



Why is there not a bumpers-cum-luggage-carrier accessory sold as a unit ready for fitting? asks "Focus" on this page.

to start his car and meeting with very little success. The starter would not turn the engine fast enough, and he was not sufficiently robust to give it a good swing with the handle.

When I suggested holding out the clutch he found that the starter spun the engine quite easily. The reason was, of course, that the heavy oil in the gearbox had become very thick and gummy, and had been acting as a powerful brake on the starter's efforts. This was made additionally evident by the engine slowing down to a remarkable extent when the clutch was allowed to come home.

The habit of declutching when using the starter is easily acquired and I advise its adoption.

With a Capital "S."

WHEN outstanding examples of good service come my way I like to publish details in the belief that others may thus be tempted to bring their organizations to an equally efficient state. Tecalemit are due for one of these periodic pats on the back.

One Tuesday morning I walked into their West End branch with a two-year-old Tecalemit grease gun which needed a new washer. Exactly two minutes later I walked out again with the gun repaired and at a cost of 1s. For my bob I had been supplied with a complete reconditioned hook-on end-piece, which a mechanic fitted to the flexible tubing in a few seconds.

This is the kind of service which I should like to see extended. None of us these days has any special fondness for individual units. We much prefer to swop them for reconditioned replacements than to wait days, or perhaps weeks, whilst they are being repaired.

A Blessing to Many.

THERE seems to be no good reason, as I have pointed out on many occasions since the mass-production era began, why one should not go to a service depot and have a complete reconditioned radiator, gearbox, axle or even engine fitted when trouble is experienced or an overhaul is due. Such a system would mean that our cars would be laid up for a minimum of time, whilst everyone would be better off on account of the replacement

units having been reconditioned at leisure and not as "rush jobs."

The idea, of course, is not capable of universal application, but to thousands who own mass-produced cars which have not been "hotted-up" or altered in any way it would be a blessing. The makers and distributors of Ingersoll watches very successfully blazed this particular trail some 15 years ago. The L.G.O.C. is another concern which has studied the reconditioned replacement problem very closely and successfully.

For Ease of Exit.

NOT nearly enough people who own modern low-built cars in which one sits in a very reclining position have discovered that getting out of their seats is much simplified if they go to the trouble of fitting a handle in some convenient position, such as on the fascia board for the front-seat passenger or on the back of the front seats for the rear-seat passengers.

A very suitable handle for the purpose is the kind which one generally finds on kitchen dressers, whilst more ornamental varieties are in common use for chests of drawers and other bedroom furniture. Such handles, by the way, need very strongly securing, and it is also wise to make sure that the part to which they are attached is capable of bearing the strain which will be imposed on it. A heavy man lifting his weight out of a reclining position exerts a fairly considerable effort.



KIRKSTONE PASS
IN DECEMBER.

A22

— The famous Lakeland pass, as seen early this month from a point about half-way up. "The Struggle," the scene of many lost awards in trials, is seen in the distance.

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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 CONSIST-
ENTLY ENCOURAGED THE
DEVELOPMENT OF THE ECONOMICAL
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OVER SIXTEEN YEARS.

NO CAR WITH AN ENGINE CAPACITY
EXCEEDING 1,500 C.C. (1 1/4 LITRES) COMES
WITHIN THE SCOPE OF THIS JOURNAL,
THAT CAPACITY BEING GENERALLY
RECOGNIZED AND ACCEPTED AS THE
LIMIT FOR A LIGHT CAR ENGINE.

Bravo, Southport!

SOUTHPORT has set an example which might well be followed by other big municipal authorities. It has, on the one hand, a thoroughly go-ahead town council, which encourages motor sport not only for its own sake, but for the profit it brings to the town, and, on the other hand, a vigorous organization in the Southport Motor Club, which is capable of planning and carrying out a highly successful series of race meetings on the sands. The Southport Town Council has, further, shown its interest in the welfare of one of the greatest British industries of the day by welcoming and heartily co-operating in the organization of the great rally held this year—in which, by the way, our associated journal *The Motor* also played a prominent part.

One member of the town council who has kept records estimates that their pro-motor racing policy, on a moderate basis, has brought the town from £3,000 to £4,000 worth of advertising which has not cost them a penny. This, of course, is viewing the matter in a purely commercial spirit, but it should convince other municipalities that motor sport is not only worth while for its own sake, but because it brings affluence to any centre in which it is vigorously fostered. Next year it is more than probable that there will be a greater number of sporting and social events in different parts of the country. We trust that their promoters will receive from local authorities the same help and support which Southport has so profitably extended.

London's Traffic Muddle.

DURING the past few days numbers of our readers have made for the first time the acquaintance of driving conditions in London. They have come to town from the provinces to spend a few days with relations and they have been amazed at the chaotic conditions under which we go about. The London streets, of course, are dense with traffic throughout the year, but never more so than during the few busy days immediately preceding and following the Christmas holiday, when increased mails, a larger volume of inter-station traffic and great activity on the part of all retailers keep every vehicle busy from daylight until long after nightfall.

How are conditions to be improved? That is

the question which is being asked not only by drivers of cars, the speed of which is reduced to a crawl, but by transport undertakings whose profits are disappearing and who find that conditions in London are becoming practically impossible. Little hope of improvement is extended whilst the present policy is pursued. A good example of this is provided by the big City circus scheme the faults of which it took the authorities some six months to discover.

We want quick decisions and the speedy correction of mistakes, unless London is to become one dense immovable mass of vehicles. We want, in addition, definite control of horse-drawn vehicles and further curtailment of unnecessary and unprofitable public services.

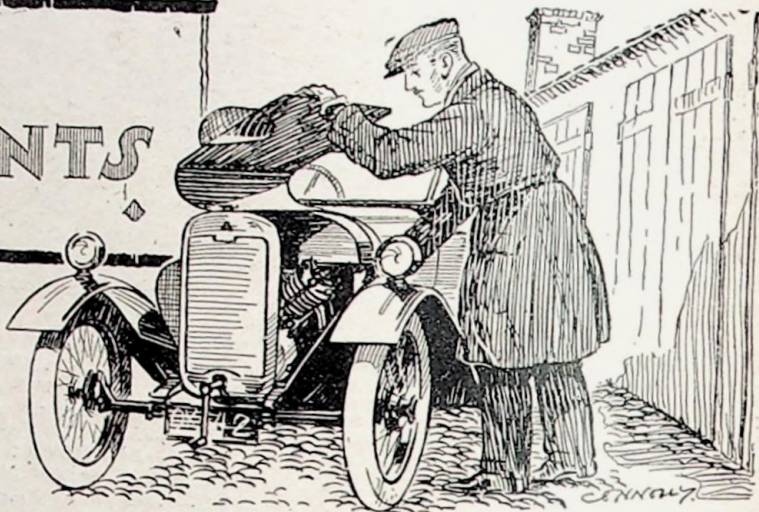
The Stationary Tram.

WHEN the Minister of Transport was asked in the Commons recently to advise local authorities to sanction by-laws forbidding drivers of other vehicles to pass stationary trams on the near side he refused to accede to the request. Such by-laws, he declared, would add to the congestion of traffic, and he was not satisfied that they would be in the interests of public safety. He recalled that provisions in local Bills which had the same object had been repeatedly refused by Parliament. Sir Wilfrid Ashley's answer was not given on the spur of the moment; it was the result of a careful consideration of the facts past and present: we hope, therefore, that any attempt to pursue this unreasonable request will be given no encouragement.

Trams in themselves are a source of considerable inconvenience—even danger—to other road users, but all motor drivers show an extraordinary degree of toleration where they are concerned. Apart, however, from questions of this kind, any measure designed to prevent stationary trams being passed on the near side would tempt drivers to take unnecessary risks. Under existing conditions traffic is, as a rule, brought to a standstill when trams are loading and unloading, for passengers crowd into the roadway and frequently take the law into their own hands by holding up their arms to stop drivers. Taking everything into consideration, we are in entire agreement with the point of view which the Minister of Transport puts forward.

CYCLECAR COMMENTS BY SHACKLEPIN

FINANCIAL ADVANTAGES OF
THREE-WHEELERS — GRADUAL
PAYMENTS AND SECOND-
HAND MACHINES—OVERHAULS
AND RENEWALS.



DOUBTLESS my readers, as well as myself, are becoming rather tired of "the £100 car" topic. It crops up with uncanny frequency and certainly seems to be quite a fetish with some people. I do not propose, therefore, to go into the whys and wherefores of the question so far as four-wheelers are concerned, but to content myself by pointing out that very excellent three-wheelers are available at prices below £100.

Thus, at a cost of about £92, which, incidentally, is less than that asked for a good many sidecar combinations, one can obtain a reliable, comfortable and speedy vehicle embodying practically all the advantages of a four-wheeler. Machines of this type should be of particular interest to the family man whose capital is somewhat limited. Furthermore, all dealers now have available quite satisfactory "pay-as-you-drive" schemes, and the terms are so moderate that they should form no very great drain upon the family exchequer.

There are folk, however, who object for various reasons to adopting the deferred payment system but to whom at the same time a cash-down transaction is impossible. They have available to them the second-hand market, in which there is always to be found a very wide choice of suitable machines at most attractive prices.

It quite often happens, however, that so soon as a prospective owner decides to buy a second-hand machine he turns to a comparatively ancient four-wheeler rather than to a more modern three-wheeler which might be offered at the same price. At first sight those who have no experience to the contrary imagine that they will be better off with a light car than with a three-wheeler, but a little thought will prove that this is by no means necessarily the case.

After all, the initial capital outlay is not the only financial aspect to be considered, as upkeep costs will vary considerably with the type of

vehicle purchased. Thus, an old car bought practically at "scrap" price will cost infinitely more in the long run than a new vehicle of a similar type. Quite often it will be found that the second-hand value of a three-wheeler, in proportion, is slightly in excess of a four-wheeler of the same year of manufacture.

There are several reasons which account for this. For example, the lower tax is obviously in favour of the three-wheeler, whilst the robust nature of the machine combined with simplicity of construction, and, therefore, ease of overhauls, make it less likely that it will be in bad condition. Consequently higher second-hand prices can be obtained.

At the same time, a man who pays a good price for a second-hand machine as a rule gets his money's worth and enjoys to a large extent that "new car" freedom from minor troubles. It is as well always to take great care in choosing a second-hand machine and not to rush in and buy the first which is offered, because by judicious picking and choosing a machine usually can be found which is a real bargain, whereas to buy the first that comes merely because one is anxious to start motoring as soon as possible may result in considerable disappointment.

On the other hand, anyone who is willing to put in a little work and to spend a little money can buy a second-hand three-wheeler for an exceedingly low sum. For instance, a personal friend of mine recently purchased a 1921 family model Morgan, with dynamo lighting, good tyres and decent external condition, for the sum of £15.

Being wise, he stripped the car completely, and after a thorough examination he found that the only replacements needed to put the machine in first-class order were new bevel wheels and a new accumulator, in addition to one or two minor odds and ends.

Of course, he was lucky in that he happened to pick upon a machine

which, in spite of its very low price, had not been "run to death"; but, however badly a three-wheeler has been used, it is not usually an expensive item, thanks to the simplicity of the design, to get it into really good condition.

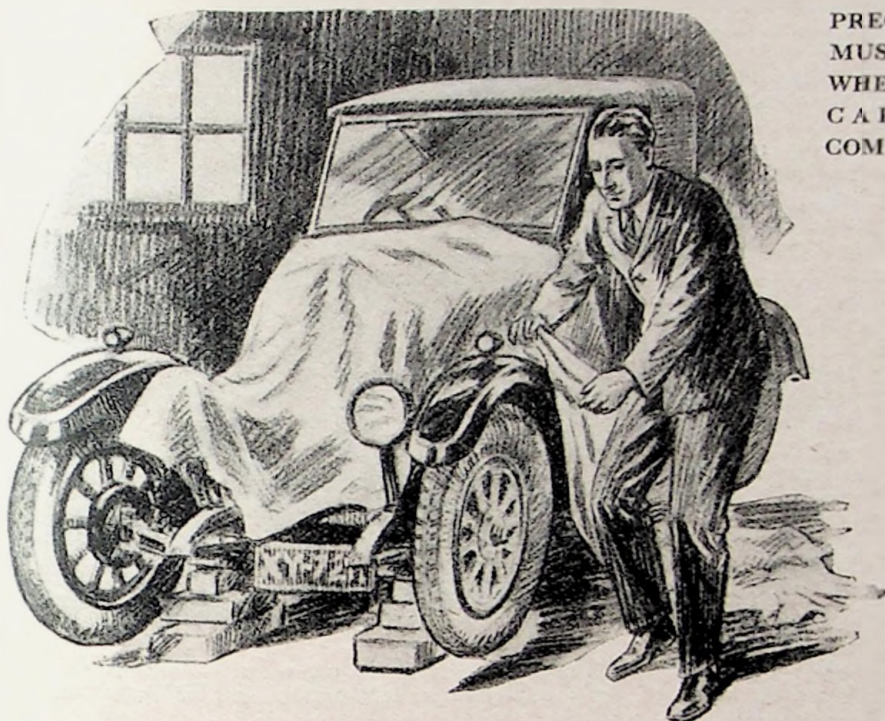
As I have said, there is a very wide choice available in the second-hand world, and one can buy either privately or from a dealer. Each method offers certain advantages, but it is as well always to examine the machine very carefully and to have a trial run before completing the purchase.

Assuming the deal to have been made, upon getting the machine home it is a good plan—unless, of course, it is a comparatively new model—to strip it down fairly completely and to renew those parts which show any particular sign of wear. If this is done at the start, not only will the period when it is necessary to put it out of commission for overhauls be extended, but the owner will have an excellent opportunity to familiarize himself with the general construction.

This is rather important, especially if the machine be of a type strange to the new owner, because it is far better to find out in the comfort of the home garage where the various important details are situated and how they are dismantled than to experiment in the rain on a dark night when an inconvenient breakdown has been experienced.

When dismantling a strange machine the owner, unless he be a fairly skilled mechanic, should take care to mark the various parts as they are removed so that they can be reassembled easily and "right way round." Labels, chalk or light punch marks form convenient marking methods and, where any doubt is likely to arise a rough sketch of the parts in position should be made before they are dismantled. With this as a guide and with each part marked in addition, there should be no risk of trouble during reassembly.

HINTS FOR HIBERNATORS.



PRECAUTIONS THAT
MUST BE TAKEN
WHEN LAYING UP A
CAR FOR THE
COMING QUARTER.

Tyres which are
protected from
the light will not
deteriorate so
rapidly.

As we have pointed out during the past few weeks, it is not good business to lay up a car, because money is going out whilst it is standing idle, yet no advantage is being gained. Those who must store their cars next quarter, however, will appreciate the following article, which contains much useful advice for preventing deterioration and keeping the car in good fettle.

ACCORDING to figures issued by the Minister of Transport, at least 110,000 cars were laid up during the winter months last year and there is no reason to doubt that an equal, if not a greater, number will be, or have been, put out of service this year. With the heavy incidence of the horse-power tax, people cannot be blamed for giving up motoring during the first and last quarters of the year, particularly if they have not the liberty to use their cars more than once or twice a week.

The economy that is effected by laying up a car and not having to pay the tax is, of course, offset by the fact that although no advantage is gained from ownership of the idle car, it continues to be an expense owing, amongst other things, to depreciation. The other expenses referred to not being capable of reduction, the only way to cut the loss is therefore to reduce the cost of depreciation to the lowest possible figure. To do this no great amount of trouble is required, whilst anything from £10 upwards can be saved if the car is comparatively smart and modern.

Good Quarters Important.

The most important thing when laying up a car is to find quarters for it which are warm and dry. This, no doubt, sounds rather a counsel of perfection, but it is necessary to mention it because the nearer one approaches to that ideal the better will the car be preserved. In seeking such quarters it is well not to go too far afield, because a great deal of trouble is saved if the car is comparatively near home and accessible for periodic attention during the winter months.

A great many home garages have been bought by folk who, at the time of purchase, have been much more concerned with cheapness than with durability. Some of these very cheap buildings are not nearly so weatherproof as they might be and, in consequence,

a car stored for any length of time in one of them cannot be expected to escape the effects of frost and dampness.

It is a sound plan in the case of some buildings to line them with three-ply wood, asbestos or painted canvas. Yet a cheaper plan is to paper them inside with a good, tough, plain wall-paper which will go a long way towards improving their weatherproofness.

A poor roof, of course, is a difficult thing to make waterproof unless it is completely recovered. Most felted roofs, however, can be made very much more servicable if they are given a generous coat of tar. The job of applying it is not nearly so difficult as many people believe, the most handy instrument for the purpose being a squeegee about a foot wide. An implement of this kind is easily made by using part of an old inner tube clamped between two wooden battens to which a handle is fitted.

Given a Good Garage.

A man who has a good weatherproof garage at home need do no more when he takes his car off the road than jack the wheels clear of the ground, reduce the tyre pressures to about 10 lb., drain the radiator and take whatever steps are necessary to make the building as warm and dry as possible. The probability will be that he does not possess four jacks, so that some large blocks of wood will be needed to place under the axles. It is important to see that the car is quite secure, particularly if any of the wheels are removed.

[Some people remove one or more of the road wheels and store them elsewhere to secure the car against theft from its garage.—En.]

For preference the car should be completely covered with a dust sheet, as this tends to preserve the condition of the coachwork and upholstery, whilst by screening the tyres from the light, the rate of their deterioration is reduced. About every three or four

weeks the car should be visited, the coachwork flicked over with a feather mop and then polished with furniture cream, whilst the interior, the bright-work and so forth should also receive attention. It will be necessary to start the engine up and run it for about ten minutes in order to give the battery a little "boost."

In the case of cars which are to be laid up and which are not to be approached by the owners for several months, the precautions which have to be taken are very much more formidable. Apart from jacking up and so forth as outlined above, it will be necessary to warm a large tin of vaseline and paint it on to all the bright-work and parts liable to tarnish. The bodywork, polished wood-work and upholstery will require a thorough dressing with a good quality furniture cream and the same applies to the hood which should, of course, be left erected.

Care of the Battery.

It will be advisable to remove the battery from the car and see that it receives proper attention. The most satisfactory plan to keep it in good condition is to have it given an occasional charge at a garage or wireless shop. If this cannot be done and it is to be out of use and without attention for a period of months, the best course is to give it a very thorough charging on the car or from a charging board and see that it is gassing freely.

The electrolyte level over the plates must then be correctly adjusted with distilled water and the tops of the cells thoroughly dried so as to avoid slow leakage of the charge. The battery should then be stored in a cool, dry place where it will be free from dust or other foreign matter.

The battery should not be used for the starter or lights when put into service again until it has been well charged by the dynamo of the car or, preferably, from



It is advisable to visit the car occasionally, and to run the engine for ten minutes or so to "boost up" the battery and circulate the oil.

a charging board, which permits a more suitable rate.

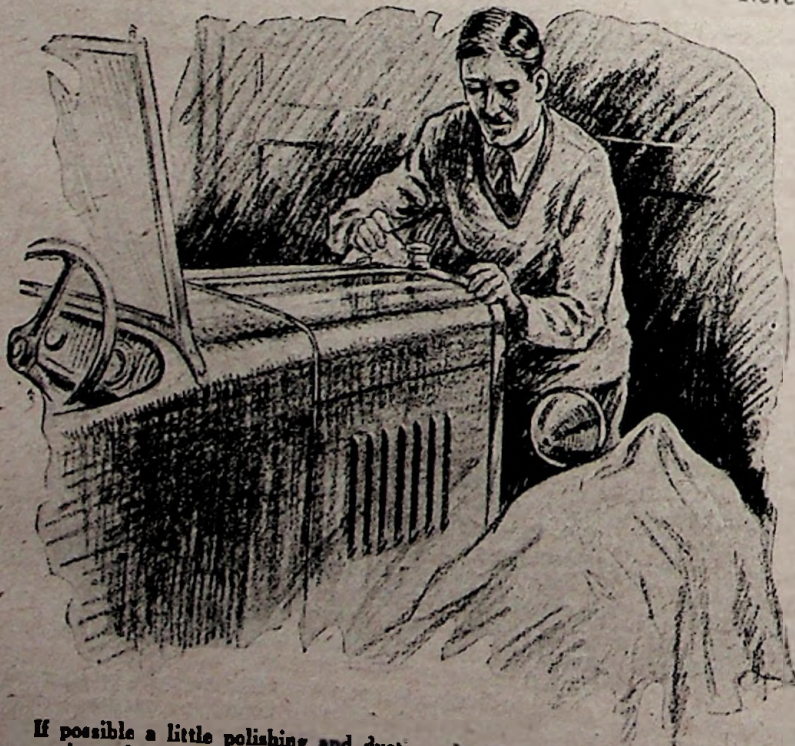
Most people forget when laying up a car that it is important conscientiously to go over all the lubricating points outlined in the makers' instruction book. Having done this it will be found that there are still a considerable number of moving parts, such as brake connections and so forth, all of which can do with a few spots of oil. The various parts of the wheel hubs, such as the securing studs and so forth, also will need a generous dose of oil or grease and the same applies to door hinges, hood iron joints and all similar parts.

A word or two of warning needs to be uttered with regard to warming the garage in which the car is stored. Never attempt to do this with an oil-stove, a portable electric radiator or any kind of exposed flame, unless every drop of petrol has been drained from the tank and the filler cap removed for a week or so to allow the moisture which remains to evaporate.

Oil Can Remain.

There are some people who, when laying up a car, make a practice of draining the oil from the engine, gearbox and axle in the belief that it may "congeal" and cause trouble. Modern lubricants need not be suspected of any such qualities, nor need car owners fear that they contain harmful acids which would be likely to attack the working parts during even the longest periods of idleness in the garage.

Securing a laid-up car against the attentions of thieves is none too easy if the garage is in a remote place and probably there is no better plan than, as already mentioned, to take away the road wheels. Alternatively the magneto may be removed (and stored in a dry place) or some such important part as the steering wheel or gear lever taken off and stored at home. The possibility of petty pilfering remains but, of this, one must take one's chance.



If possible a little polishing and dusting should be carried out every few weeks, unless the car has been vaselined and very carefully prepared for its winter sojourn.

*Legal Aspects.***COMPULSORY THIRD-PARTY INSURANCE.***By a Barrister-at-Law.***A RECENT PARLIAMENTARY BILL DISCUSSED—THE MEANING OF TWO IMPORTANT CLAUSES—A COURT OF APPEAL DECISION.**

IN the draft Road Traffic Bill, which was published well over a year ago and has apparently been left to die of inanition, there is a clause making third-party insurance compulsory in the case of public-service vehicles. A short time ago Lord Cecil introduced a Bill in the House of Lords which, among other things, provided for compulsory third-party insurance in respect of all vehicles, and last month a Bill was introduced by Mr. Wardlaw-Milne, Sir Herbert Neild and others, the sole object of which is to make third-party insurance compulsory.

Most motorists will agree that it is a very serious thing for a person to be badly injured owing to someone's negligent driving and yet to be unable to recover any compensation because of the negligent driver's lack of money. Particularly in these days is it serious when people of very limited means can become the owners or hire-purchasers of motor vehicles. That the law should be altered in some way, so as to prevent or considerably lessen the likelihood of these every-day events occurring in the future, most people are agreed, but the problem is not an easy one and the present suggestions for its alteration make this clear.

It is proposed in this article to deal shortly with the Bill introduced by Mr. Wardlaw-Milne. This Bill contains two important clauses. By the first "... A County Council shall not issue any licence" (i.e., car, not driving licence) "... unless the applicant shall produce a policy of insurance issued by a company, or society approved by the Minister of Transport, and covering the owner ... against his legal liability to any third party as a result of accident or damage caused by such motor vehicle."

Approved Insurance Companies.

If the clause were passed in this form several difficulties would arise. In the first place the decision as to what is an approved insurance company would rest with the Minister of Transport. It is quite true that the purpose of any such Bill would be defeated if every motorist insured with a bad insurance company or one in financial difficulties. At the same time, unless approval is given wholesale to insurance companies, one can imagine great discontent arising in the insurance world and charges of favouritism might well be brought against the Minister or the Government and make their positions extremely invidious.

Insurance companies which were not approved would stand to lose the whole of their motor insurance business. What test will the Minister apply? The amount of capital, the general reputation or the previous history of the firm? It will be a very difficult task to pick and choose. On the other hand, if only a few—namely, the biggest—companies are to be approved, the smaller reputable companies will have a very real grievance. It may, and should be, possible to arrive at some solution of this difficulty, but the present Bill does not provide one.

The second criticism is extremely important. Many cars are lent by their owners or hired out by them in circumstances in which the driver does not become the servant or agent of the owner, and in such cases the owner incurs no liability. If, then, the driver injures someone owing to his negligence and cannot pay compensation, the injured party will not be assisted by the Bill, as the insurance policy necessary

under its present provisions does not provide against this risk. In view of the large number of cases where these circumstances arise, they must clearly be provided for.

If the words "and any person driving with his consent" were inserted after "covering the owner" and the words "or that of any person driving with the owner's consent" were added after "against his legal liability," this difficulty might be avoided. It must, of course, be remembered that a policy covering more than one driver is more expensive than one that covers the owner alone, and an owner, who never allowed his car to be driven by anyone but himself, might well complain at having to take out the more expensive policy. This complaint might be met, however, if a clause were inserted in the Bill by which owners, who never let, and stated in their application for a licence that they never would let, anyone else drive their cars, should be required to take out only the less expensive policy but should always be liable for the negligence of anyone else driving with their consent, and possibly also to a penalty for allowing anyone else to drive.

It should also be made clear in the Bill that the insurance policy must cover unlimited legal liability. Otherwise it might be possible to evade its terms in effect by taking out a policy for a nominal premium insuring against third-party risks up to a nominal amount.

Money Held in Trust.

The second clause in the Bill runs as follows:—"The said policy of assurance shall provide that the insurers shall hold any moneys payable by them under such policy in respect of a claim by a third party against the assured in trust for the person making such claim and the insurers shall pay to the claimant such damages or compensation and costs agreed or adjudged to be due to the claimant or as may be directed by order of Court to the extent of their liability under the said policy."

This clause is designed to overrule the recent decision in *re Harrington Motor Co. Ex. p. Chaplin* (1928 Ch. 105), where it was held that where a plaintiff, injured by the negligence of the defendant company's servant, had recovered damages against the company and the company's insurers had paid this sum to the company, which then went into liquidation, the plaintiff could not claim this sum as money impressed with a trust in his favour, but must rank as an ordinary creditor.

This meant, of course, that the sum paid by the insurance company to the defendants to meet the judgment against them would go to the benefit of all the defendants' creditors and the unfortunate plaintiff would get only a very small proportion of his damages and costs. In other words, any insured person who had negligently injured someone and had a judgment against him could obtain the money from the insurance company, spend it on himself or on his other creditors and then go bankrupt.

Finally, there seems no reason why persons, who can show they are able to carry their own risk, should not be allowed to do so if they wish. In such cases, however, there should be severe penalties for making a false statement as a result of which a licence was issued without the production of a policy being required.

Hill-climbs of the Essex



THE demise of the Essex Motor Club is a sad reflection on the state of motor sport in general, and one hazards the opinion that the decline in popularity of this one-time most popular club dates to the time when hill-climbs—in fact, any kind of speed event—on public roads were banned.

Kop Hill—what memories the name conjures up!—was the venue of many successful E.M.C. events, the distinction of staging a thoroughly good afternoon's sport being shared in the old days, incidentally, by several other clubs.

Kop was the Mecca of London motorists, and the big meetings were regarded as the premier hill-climbing events held within a reasonable distance of the Metropolis. If the day were fine, folk endeavoured to get out of London early so that they could picnic in comfort high up the hill and enjoy the panorama below in plenty of time to stow away the picnic hamper, descend the hill, pass under the great starting-line banner and inspect the competing vehicles drawn up in orderly array.

A few minutes before zero hour they once more toiled painfully—yet joyfully—up the hill, so that they could obtain a good vantage point on the left-hand bank which formed such an admirable grandstand. Then the fun began.

First of all the touring cars, slow but entertaining, because the rapidly stiffening gradient called for expert use of the gearbox. The times

were announced promptly, and it was easy to pick out the winner of each class and easier still to give him a cheer as he coasted down to the starting-line again.

Next the sporting classes, and a notable increase in speed. By this time the hill usually became crowded, and spectators who were a little bit too inclined to push forward were "told off" good-humouredly by the rest of the crowd. The sporting cars raised the dust as they skidded the bends, and the staccato roar of their exhausts whetted the appetite in preparation for the big "turn" of the afternoon in the shape of the racing cars.

Except at the real summer meetings one made a hurried dash to the tea and coffee stall in order to revive the inner man, for the winds often blew cold across Kop and the need for warm refreshment made itself felt very often at this stage of the proceedings.

Then the crisp note of a powerful exhaust rising rapidly to a crescendo and dropping as rapidly to a murmur which was hardly audible sent one scurrying back to find a fresh position.

Instinctively the crowd drew back slightly as with a final triumphant warning note the first car in the racing classes leapt off the starting-line

Can they be Revived?

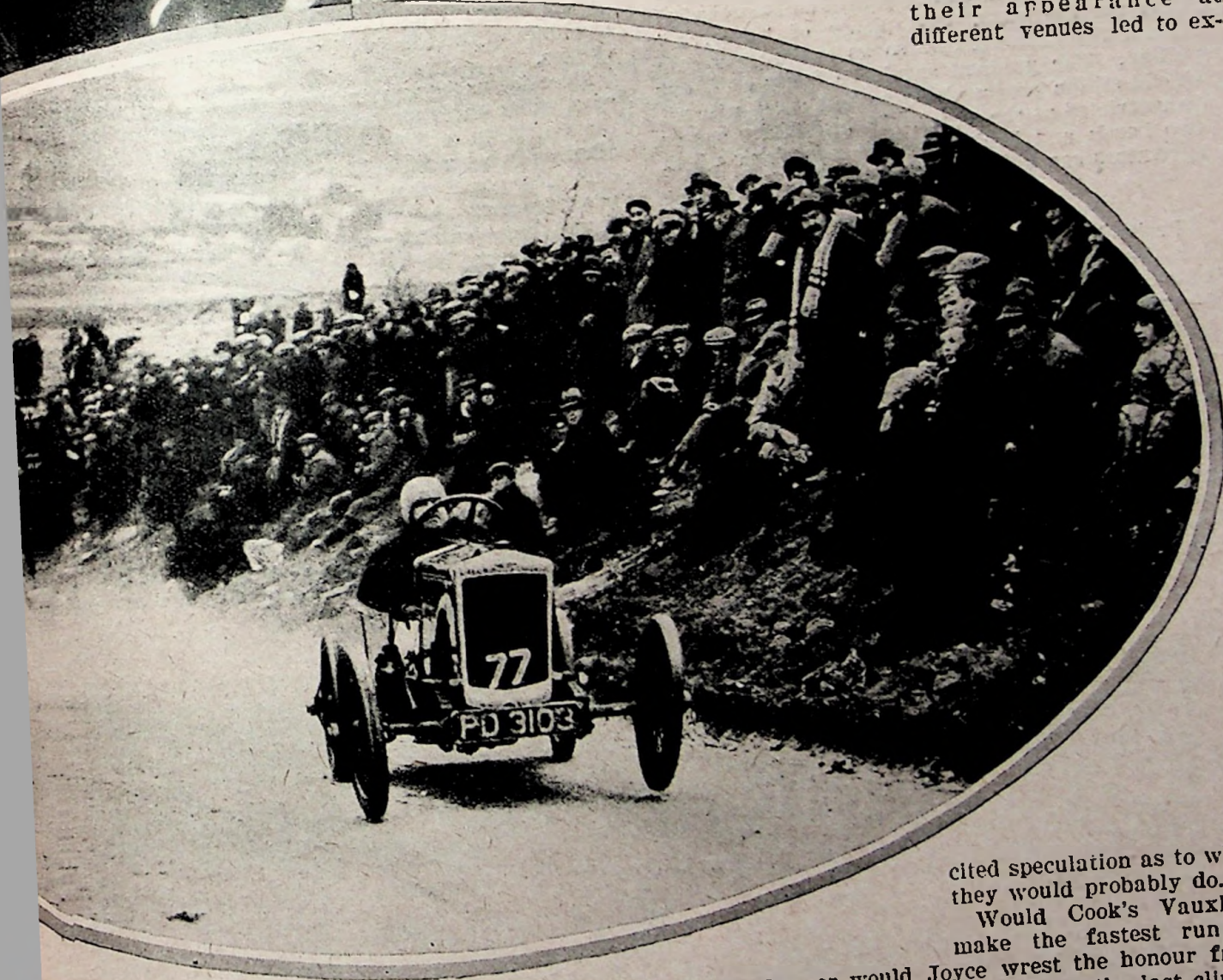
"KOP" IN THE OLD DAYS.

(Left) Some of the crowd which gathered for every big meeting. (Below) A thrill in the racing class. A.G. Frazer Nash correcting a 70 m.p.h. skid in his Frazer-Nash.

not do sufficient justice to their subject, you have the atmosphere of Kop—and for the matter of that, the atmosphere of any of the hill-climbs on public roads so popular a few years ago.

Kop, as we have said, was the Londoner's hill-climb, and the Londoner also found time to run out to Aston Clinton and, possibly, Thundersley, in Essex, where similar types of event were held; but when it came to events farther afield like South Harting, Shelsley Walsh, Spread Eagle, and so on, the attendance was made up mostly of local folk with only a sprinkling of enthusiasts from the Home Counties.

The competitors, however—or, at any rate, the better-known amongst them—were nearly always the same and, strangely enough, one never became tired of them. Actually one did not see enough of them at any particular climb to grow weary, and their appearance at different venues led to ex-



and came snaking up the hill at an almost incredible speed. One held one's breath as it slewed round the curves, its driver seeing nothing but the narrow ribbon of road and realizing nothing but the need for keeping the car on its course. These meteoric ascents were well worth waiting for. They warmed the blood and made one register a vow that no matter how big the crowd or how cold the wind, one would see it through to the bitter end and, furthermore, be present on the next occasion.

There in a few words which, it is feared, do

cited speculation as to what they would probably do.

Would Cook's Vauxhall make the fastest run of the day, or would Joyce wrest the honour from him as he had so nearly done at the last climb? Was Nash down to start, and would Raymond Mays materialize? These were the kind of questions one heard on every side. No wonder the programmes were bought up quickly and eagerly scanned; these hill-climbs were the thing of the moment.

In those days the fastest vehicles were nearly always large cars—with the obvious exception of vehicles like Kim II, Mays' Bugatti, Halford's Aston Martin, and so on. What a change would

come over the scene if hill-climbs could be staged up the same gradients to-day!

This brings us to the crux of the whole business. Have those days gone never to return, that is, the days of the real—one might almost say—"old-fashioned" hill-climb? At present we have only Shelsley Walsh and one or two stunt gradients which have practically had to be "manufactured" by enterprising motor clubs in the North Country. Heaven knows what we should do without them. They are the only relics of a sport which gripped the public in no uncertain fashion before that unhappy day when a car ran amuck on Kop.

Won't somebody find a hill?

If several "somebodies" became busy we might even find a number of hills and thereby revive those good old days of the past.

What is wanted is a gradient about half a mile long over the "measured" distance, but with room at the bottom for cars to be parked and marshalled ready for the start, and plenty of "overrun" beyond the finishing line so as to ensure a safe pull-up. The gradient should be fairly stiff, but should stiffen progressively so that speed will not be restricted at the outset. It should have one or two bends and banks on each side from which spectators can obtain a good view.

A Difficult Requirement.

Probably there are plenty of hills of this kind, but there remains the most difficult requirement of all. The hill must be on private ground. Aye, there's the rub! Competition secretaries will tell you that they have been looking for such a hill ever since the ban was announced.

So difficult was the problem that plans were actually discussed for buying a strip of ground adjacent to Kop Hill and running parallel with it, the idea being to construct a private "Kop," having all the characteristics of the public road, yet built on private property. The scheme, however, was vastly expensive; moreover, at that time the success of the undertaking was doubtful,

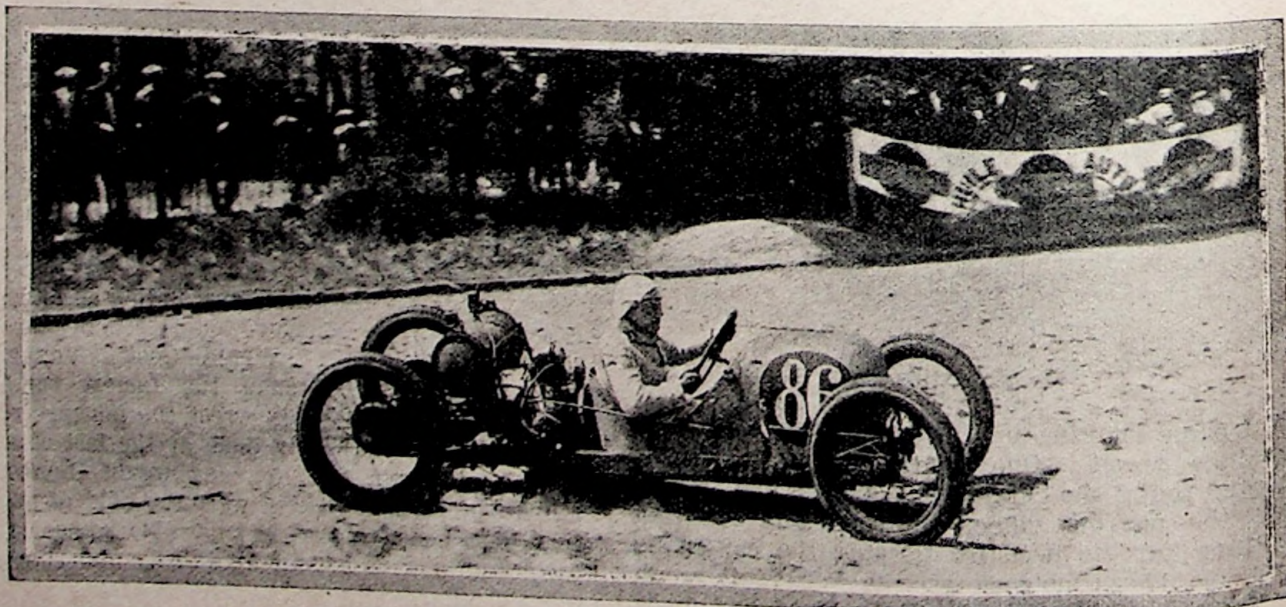
bearing in mind the return for capital expenditure required, and so it advanced no farther than the paper stage. Yet, had it been pursued, it is more than probable that Kop would still be the venue of hundreds of motorists on Saturday afternoons, and the spirit that characterized hill-climbs of the past would not have been so nearly lost.

Shelsley Walsh.

Thank goodness we still have Shelsley Walsh. In the old days it ranked as a classic, and we can still feast our eyes on the spectacle of our nearly forgotten heroes of the past roaring up its twisting slopes; but Shelsley comes but twice a year, and only too often those of us who were habitual hill-climb-goers find that some previous engagement debars us from being present; moreover, one or two climbs a year are not sufficient to encourage manufacturers to build "stunt" machines of the kind we loved to see in the racing classes.

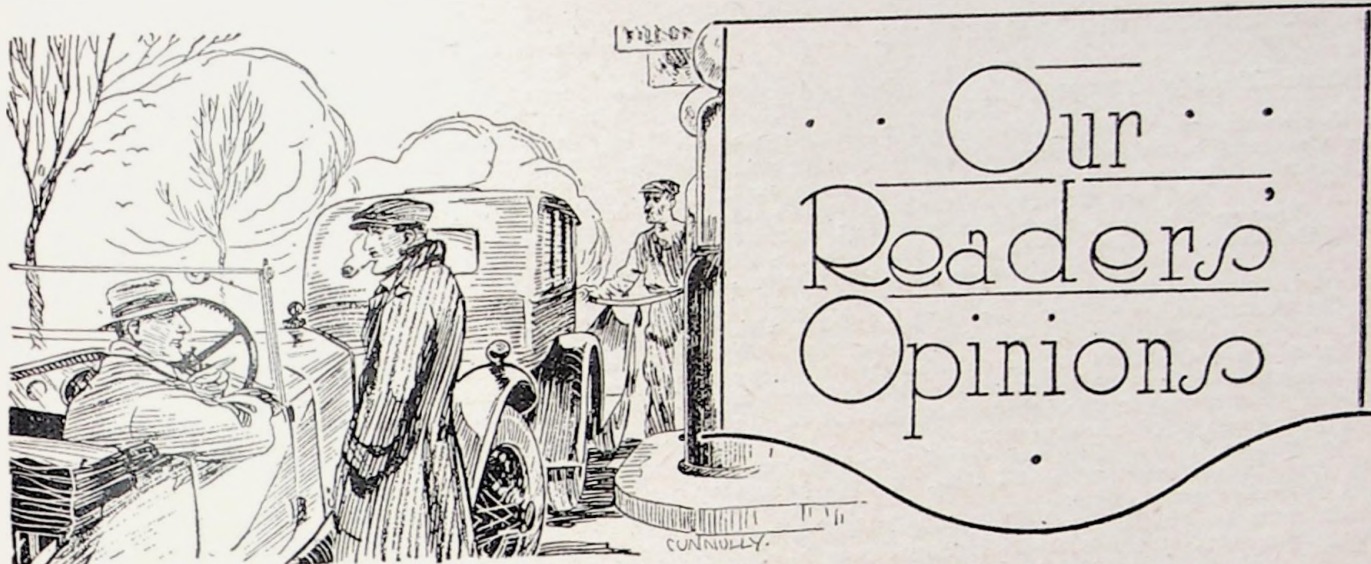
Here let us hasten to point out that the mere spectacular thrill was not the only thing that drew the crowd to a hill-climb. The touring classes, admittedly, were often slow by comparison, but the data they provided were of inestimable value and vital interest. So even if the racing cars of old do not figure on these ideal hills that all the Mr. Somebodies are invited to find, we should still have events worthy of the name of "hill-climb." With the rapid increase in the efficiency of small high-revving engines the sporting classes to-day would provide very nearly as much amusement and education as the racing car classes of five or six years ago.

So please, Mr. Somebody, keep your eyes and your ears open on your winter runs so that you do not miss a single clue—and ask your friends about it. The hill must be on private ground; that, admittedly, is a snag, but are there *no* hills so situated the owners of which would be only too pleased to come forward and begin a new era in speed hill-climbing?



THE SPORT
IN FRANCE.

Hill-climbs are still a prominent feature of the sport in France and pioneers are encouraged to produce all kinds of unconventional machines destined to take part in them. Here is the special rear-engined Sima-Violet at speed in a hill-climb held last summer. Cyclecar enthusiasts will be interested in the layout of the machine.



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

LORD CECIL'S IMPOSSIBLE BILL. Gullies and Governors to Replace Traps?

Heath Robinson Remedies—

I think, from what I have read of Lord Cecil's Bill, that every genuine motorist will be in hearty agreement with the *spirit* of the Bill, the general improvement of road conditions, but as for the actual provisions of the Bill, well—to put it bluntly, they are hopeless. One is tempted to ask: "What does Lord Cecil know about motoring?" and "What is his actual experience as a motorist?" It seems that he decided that things are all wrong with the roads (which, in a measure, is right) and promptly drew up a list of Heath Robinsonish remedies which he proceeded to put into the form of a Bill.

It would be ridiculous indeed to give local authorities the power to alter the road level at dangerous places so that motorists could not drive over them at excessive speeds. If local authorities were *compelled* to alter the level of roads at dangerous places to a more reasonable slope or camber, then something really useful would be done, but most people think that local authorities accomplish quite sufficient road upheaval work as it is!

To my way of thinking the reasonable way to reduce road dangers is the road-sense education and assistance of motorists, and a universal co-operation of the motorists themselves in a give-and-take spirit.

A. TOMAS.

An Impossible Provision.

It is scarcely surprising, I think, that Lord Cecil's Bill should, as reported in your issue of December 21st, have been "torn to shreds and tatters." No doubt the noble lord was actuated by the best motives

Dangers of Governed Engines. when he drew up his Bill, but surely the majority of its provisions show clearly that he is not very fully in sympathy with the motor movement. His attitude, if one may judge from the Bill, is that of many other folk concerned with the making and enforcing of laws which govern motoring.

Lord Denman and Lord Londonderry, however, cannot possibly be regarded in any other light than as friends of motorists; we could wish that they had a larger following both in the Lords and the Commons.

The suggestion made by Lord Cecil that engines should be governed to prevent a certain road speed being exceeded is, of course, absurd. Imagine the congestion which would

occur if it were impossible for any car to exceed the present ridiculous limit of 20 m.p.h. Furthermore, if the r.p.m. of the engine were limited to provide a speed of only 20 m.p.h. in top gear, hill-climbing, which called for a lower gear, would be reduced to a farce and, generally, it would be quicker to walk.

I once had experience with a lorry in which the engine was governed. The machine was a positive danger because, often, when a little more speed would have enabled me to manoeuvre safely in a sudden emergency, I had, instead, to brake hard, thus becoming a far greater menace to other traffic than would have been the case had a few extra m.p.h. been possible. Imagine situations of this kind increased ten thousand-fold, and you have an idea of what motoring would be like if Lord Cecil had his way.

ANTI-BILL.

One Law for the Rich—

In view of its manifest absurdity, it is rather remarkable that the Bill of Lord Cecil of Chelwood has been given a second reading. The Bill has obviously been drawn up without any sound knowledge either of modern road conditions or the economic needs of the country. Were it to be made law and its provisions enforced, the transport of the country would be paralysed and industry would suffer a set-back that it is ill-prepared to withstand.

"Shameful Provision."

Apart from these aspects of the Bill, however, there is one point which, in my opinion, calls for criticism in the very strongest terms. I refer to the shameful provision which allows highway authorities to "make such alterations in the level of the road as will prevent excessive speed at dangerous points." This clause savours far too much of the principle, "one law for the rich and another for the poor."

A trench or bump in the road which would be suitable for "preventing excessive speed" in the case of a small car would have little effect on the luxurious suspension of a £2,000 saloon. Similarly, if the depression were made severe enough to slow up a large expensive car to a "safe" speed, it would cause owners of light cars to come almost to a standstill. Of these alternatives the former is inefficient, because the large-car owner is not made to slow down in the desired manner, whilst the latter is unjust, because the small-car owner is penalised.

R. N. FORTESCUE.

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OUR READERS' OPINIONS (contd.).

Where Dipping Lamps Fail.

A strong point against dipping headlamps was suggested to me recently, and demonstrated during a night run. Obviously, when driving at night one's eyes are fixed chiefly upon that point which is brilliantly illuminated and farthest from the car; in other words, one's line of vision is identical with the beam issuing from the headlamps.

Consequently, when the lamps are suddenly dipped, with an almost uncontrollable movement the eyes follow the beam to the point where it then rests, on the road a few feet in front of the car, instead of being directed straight ahead. After two or three hours of night driving the tendency to do this becomes greater.

In the case of swivelling the near-side or both lamps to the left, the tendency is still there, although perhaps not to such a great extent.

It seems to me that the dazzle question is still a long way from being settled to the satisfaction of everybody.

K.D.

A Grouse about Screenwipers.

I have just obtained delivery of a 1929 model ordered at the Motor Show. It is fitted with one of the fashionable single-panel screens hinged at the top and, although I was not particularly keen on this feature and much preferred the old two-panel type, I consoled myself with the thought that I should be able to fit a nice long screenwiper blade and so enjoy an exceptionally wide range of vision in wet weather. I duly bided my time along to the premises of the folk who make the screenwiper fitted to the car and, producing the original blade, said: "Please, I want one 10 ins. long."

O blighted hope! The very modern and very well-groomed young assistant behind the counter raised his eyebrows—such eyebrows!—and stared at me as if I had asked him for a wiper for cleaning the kitchen windows or something equally ridiculous. Then, bringing his eyebrows down to earth in one fell swoop as it were, he informed me that such a blade was not obtainable. With the idea, presumably, of making me feel the absurdity of my request, he added, in a lofty tone, the gratuitous information that I was the only person who had ever asked for such a thing.

Such is the initiative of a well-known concern. Surely single-pane screens have been with us quite long enough for screenwiper manufacturers to have produced a blade which will allow full advantage to be taken of the large unbroken expanse of glass. Apparently this is not so.

L.J.

That First Closed Car.

To the man inured to a fast, open car, the acquisition of a saloon, built more for comfort than speed, gives ample cause for mixed feelings regarding his conversion. Once a motorist, always a motorist, and the genuine enthusiast needs his car all the year round, but ultimately even the most hardened, when he has left behind his bescarved and beretted days—reminiscent of snaky sports bodies, noisy outside exhausts, detachable hoods difficult to attach, and a contemptuous indifference to the absence of mudguards—becomes a victim to the lure of the closed car.

Of course, the climate of this England of ours is to blame. The driver of an open car, starting his journey in sunshine, must be resigned to changing skies and sudden showers ahead. But he is usually most indecisive. It is surely only a shower; shall he stop and put up the hood, or drive on quickly, in the hope of "running out of it"? Whilst he hesitates the cold, heavy rain beats unpleasantly into his eyes, and both he and his cargo soon feel very wet and miserable. There are no signs of the weather improving, so finally the hood is erected and fixed, and he drives on, very annoyed.

A mile later the sun bursts forth again, the screenwiper labours needlessly, the atmosphere in the car seems close and unpleasant; how about having a sidescreen or two down? Nonsense; no half measures, decrees the open-car driver, who invariably takes the slightest opportunity of dispensing with the hood. But—will it keep fine?

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A saloon certainly yields a feeling of cosiness and immunity, a don't-care-if-it-snows feeling. You experience the complacent satisfaction of defeating the elements. Yet, if you have previously owned an open car, you know that you have in reality capitulated, and there is shame in your heart. You gradually become soft, distrustful of air currents, and eye angrily any passenger who has the temerity to open a window, thus reverting to the old days of comfortless train travel.

The saloon is so much like home. There is no necessity to don hat, coat, muffler and gloves. A car with even the latest "all-weather" equipment does not give quite such convincing security against wet and wind. There is also a sombre air of respectability about a saloon car, and I must confess that a mantle of grave respectability seems to enshroud me when I drive one. Perhaps those joyous



THE AFTERMATH OF CHRISTMAS.

"I say, old man, I'll exchange two dozen screenwipers for one of your hydraulic jacks."

bursts of speed lose their savour when taken in a closed car. Even in one of the rakish super-sports variety I contend that speed is robbed of its keen exhilaration.

I appreciate the excellent qualities and indubitable advantages of my saloon, which enable me to travel in comfort throughout every month, but I often yearn for a long spin, on a fine crisp day, in a truly undignified, side-curtainless, open two-seater, to feel a fresh wind on my face, and, above all else, the accompanying exultant sense of freedom.

ANTHONY B.

A Safety Device that is Dangerous.

Few people nowadays do not realize the value of bumpers, and it seems that it will be a matter of only a year or two before they become universal in this country as they are in America. Three of my own

A Fault of Bumpers.

circle of motoring friends have been able to keep their "no-claim" insurance bonuses intact through the use of bumpers, so I have had ample opportunity to see their value. At the same time I should like to point out one serious fault in practically all designs. The outer ends are, in most cases, bent round in such a way that the rear bumper on one car might very easily catch in the front bumper of another car which is being overtaken, and if this should happen a very serious accident involving both cars might result.

This danger was, I believe, pointed out in your columns some three years or so ago when bumpers were first becoming common, but makers of these fittings still go on producing them in their present dangerous form. I have written this letter, therefore, in the hope that they may realize this serious fault in their productions and set their brains to work to find a remedy, which I should imagine, will not prove difficult.

E. N. CLARK.

OUR READERS' OPINIONS (contd.).

Driving by Compass and Stars.

I can hardly see any possibilities in driving by compass, in places where there are roads, except to give one a general direction, but when in South Africa some years ago with Colonel Chas. Jarrott, we drove hundreds of miles by compass, right across country where no roads existed. In such cases a compass is an absolute necessity. After dark we generally steered by a particular star, as we were going due east a greater portion of the time. S. F. EDGE.

Trials and Mechanics.

I cannot let certain remarks made in the letter signed "Satisfied" pass without comment. The old-time, detailed trials reports were read not only by competitors who wished

A Question for "Satisfied." to see flattering (and otherwise) allusions to themselves, but by hundreds of actual and prospective light car owners who wished to compare the performances of various makes, under trying conditions, and in the hands of drivers who would give them a reasonable chance of showing their merits. It was in no small degree due to these trials and drivers that the small car reached a stage of perfection in which it could with safety be placed in the hands of owners who knew not Shelsley Walsh from the London-Edinburgh, and who may now with confidence buy their car first and read their technical articles afterwards.

"Satisfied" is very scathing regarding the previous writer's knowledge of motoring. Would he care to emulate Mr. Chaplin who, last season, bought a somewhat wreckish A.B.C. for £12 10s. and took it through the London-Edinburgh run, gaining a gold medal after having suffered such minor troubles as the loss of a roller from the lower end of a tappet? Mr. Chaplin did not overcome this trifle with the aid of a technical article, deeming it wiser to use a lump of rock from the road-side to reconstruct the shape of his engine! Could "Satisfied" do this and would he remain "satisfied" all the way to Edinburgh?

E. HILLERAY.

Are Touring Cars Faster in Traffic?

At the first glance, the paragraph by "Focus" to the effect that it is possible to put up a better average speed in traffic with an open car than with a saloon seems undeniably true. A little thought, however, shows that there is more than one aspect of the question. No one will deny that the average saloon has a number of "blind spots" which handicap a driver and make him reduce speed in certain circumstances, but although the owner of an open car scores heavily in this respect when the hood is folded, what is his position on wet days?

From my own experience—extending over many years—of touring cars, I venture to suggest that he is in a very much worse position than the saloon driver. To begin with, side screens, even when new, do not offer such clear vision as glass windows, and when they have become yellowed and warped with age they form a very serious obstruction to one's view. Then there is the rear window, which is nearly always smaller in a hood than in the back of a saloon. Finally, there is the fact that the hood of an open car usually comes lower, in relation to the seating position, than does the roof of a saloon.

When one considers this fact and remembers our fickle climate, there seems little ground for saying that the open car is faster. One must consider it under all conditions and strike an average. Personally, I think that what the driver of an open car gains in fine, warm weather is compensated for by what he loses on cold or wet days. Taken over the whole year, then, there is not much to choose between open and closed bodies from the point of view of speed capabilities in traffic. L.P.F.

For Topping-up the Battery.

I was interested in "Focus's" remarks on topping-up batteries. Personally, I do not think the hydrometer syringe can be improved upon, and I have adopted this method for some years. I experienced the same difficulty as "Focus," and was continually buying glass syringes, but I eliminated this drawback by buying a

A Celluloid Syringe.

celluloid syringe for a couple of shillings or so, and now I keep this solely for topping-up the batteries. No doubt these celluloid syringes can be obtained from any of the battery makers, but the one I have is a Stadium, sold by Messrs. Etienne and Cie. MK4SG1.

An Improvement for Dashlamps.

As one who covers many thousands of miles after dark year in and year out, may I put forward a "brain-wave" I had recently in the hope that some accessory manufacturer will take up the idea. Most drivers find, I think, that a dashlamp

Steering-wheel Switch Suggested. which is kept alight throughout a journey is apt to make it somewhat difficult

for the driver to see his way, and this applies even in the case of those excellent systems in which the instruments are illuminated by bulbs concealed behind the board.

On the other hand, it is very troublesome to have to reach forward and grope for the switch merely to see, for instance, if the oil gauge shows the correct pressure. Moreover, leaning forward to operate the switch, then glancing at the instrument and finally switching off again is apt to distract the driver's attention somewhat from the road ahead.

My suggestion is, therefore, that a small switch somewhat like a horn button, but sufficiently distinct not to be mistaken for it, should be produced for fitting on to the steering wheel, so that the driver could switch on the dashlamp without shifting his position, and having seen what he wants switch it off with equal ease. I am sure that a neat and unobtrusive switch of this type could be made and sold quite cheaply.

NORMAN H. ROBERTS.

The Lure of Speed.

Why is it that the lure of speed is so great amongst motorists? In speaking about any car, the only points which appear to interest most of them in the slightest is how fast it will go and how soon it will attain

Why Travel Fast?

that speed. Questions which relate to comfort or to the ability to travel gently receive hardly any consideration. I admire the courage and skill of such men as Major Segrave and Capt. Campbell, but I cannot see the object of their speed-record attempts. It is necessary, apparently, to scour the world in order to find a course which will allow ultra high speeds to be attained. Then, when it is over, and these brave men have achieved their objects, one remembers that the speed limit in this country is 20 m.p.h. I ask, therefore, why is the speed fetish so powerful?

I am told by speed fiends that the study of racing cars enables designers to produce better touring cars. I cannot, however, agree that this is a reasonable excuse for indulging in high speeds.

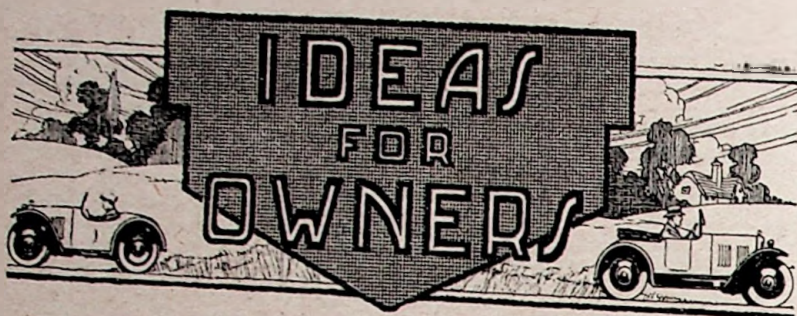
Personally, I am quite satisfied with the present limit. I never feel the slightest inclination to exceed it and, in fact, when driving in the country on a fine day, I find 15 m.p.h. to be a very pleasant speed, as it enables my passengers and myself to look about and enjoy the scenery. It is extraordinary, however, how many drivers find it necessary to hoot violently when they overtake me at their usual high speeds.

Quite often, also, these folk, in passing, make signals to me to keep closer to the side of the road, but I do not see why I should do so, as I am within the law and they are not. J.G.

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FORTHCOMING EVENTS.

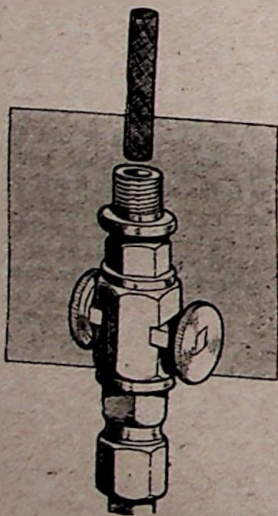
December 30.	
Wood Green and District M.C.	Run to Ashridge Park.
London M.C.	Run to Knebworth.
January 2.	
Cranford and District M.C. and L.C.C.	Social Evening.
January 2-3.	
New Cyclecar Club.	Visits to The Daily Chronicle Offices.
January 4.	
Combined Motor Clubs' Fourth Annual Charity Fancy-dress Ball.	
January 5.	
Kent and Sussex L.C.C.	Annual General Meeting.
January 8.	
Sunbeam M.C.C.	Annual General Meeting.
January 9.	
Cranford and District M.C. and L.C.C.	Annual General Meeting.
January 10.	
Carshalton M.C.C.	Annual Dinner and Dance.
January 11.	
Sunbeam M.C.C.	Annual Dinner.
Essex M.C.	Annual Dinner and Dance.
January 14.	
Civil Service M.C.C.	Annual Dinner and Dance.



We invite readers to send us hints gained from their own experiences 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.

Spring-gaiter Substitute.

In a hint published on this page some weeks ago it was suggested that unprotected road springs should be thoroughly greased and then bound with insulating tape as a substitute for spring gaiters. A reader writes to say that he has found it better to use strips of inner tube about 2½ ins wide in place of insulating tape, as the latter, if bound tightly enough to retain the lubricant, tends to make the action of the springs too stiff. When using inner tube the strips should overlap by at least ¼ in., the ends being secured with copper wire. If surplus grease is wiped off before the strips are bound in place, the rubber will last much longer. In addition to protecting the springs, these "puttees" will, to some extent, act as shock absorbers.



With a little trouble a gauze filter can be fitted to most petrol taps (see below).

Preventing Choked Jets.

The only filter provided in the petrol supply system of many light cars is the small gauze disc incorporated in the float chamber of the carburetter, and this, unfortunately, is not always adequate. Readers who boast of a little skill with the soldering iron will find that an excellent filter can be made to fit in the orifice of most petrol taps on the lines shown in the accompanying sketch. It will be seen that the actual filter takes the form of a strip of fine gauze bent round to form a cylinder and having a disc of gauze fitted into one end, the joints, of course,

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being soldered. This is fitted into the hole of the tap, so that it will be in the tank when the tap is refitted and will therefore protect the pipe from blockage as well as the jets. The gauze cylinder is soldered in position, the hole in the tap being reamed out if necessary to accommodate it. The job may be simplified somewhat if, instead of fitting a separate disc to the gauze cylinder, its end is nipped with a pair of pliers and the edge soldered.

About Screw Threads.

Screw threads, whilst amply strong to withstand the strains for which they are designed, are very easily damaged by careless treatment, and considerable delay and possibly a certain amount of expense may result if the thread of an important nut or bolt is "stripped." Fine brass threads, such as those used for petrol tank filler caps, are particularly liable to damage. The best thing to do if the threads do not engage easily is to turn the cap backwards until a slight click is heard, when the cap can usually be screwed on quite readily.

When it comes to replacing a nut which has been lost, great care should be taken to ensure that the new nut is of the correct pitch, as it often happens

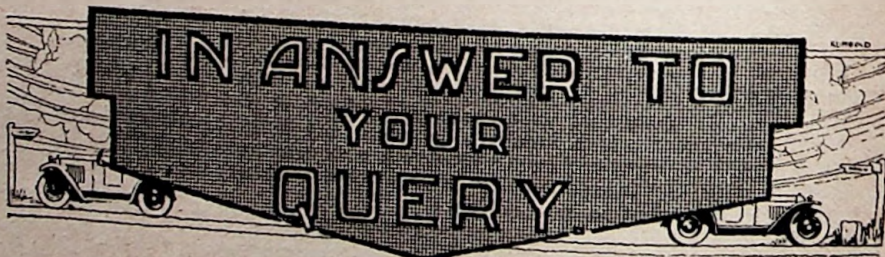
that when the threads of a nut and bolt differ only slightly the nut can be screwed on two or three turns quite easily before it commences to bind, and this may lead to the belief that the stiffness is due merely to dirt or to the thread being slightly burred. To continue tightening the nut will result in the threads being crossed and the bolt itself will very likely be damaged. Another nut of the correct pitch can usually be obtained without difficulty, but the bolt or stud may be a part of the car or of a kind which will be rather expensive or troublesome to replace.

Another point to bear in mind is that it is always worth while cleaning the protruding portion of a rusty or muddy bolt before attempting to remove the nut, as apart from the stiffness in unscrewing it there is the chance that road grit will damage the thread. Paraffin is the best cleaning medium.

Covering Facia Boards.

Few people have a car very long before adding to the facia-board equipment, and if the positions of the additional "gadgets" are changed, unsightly holes are left in the board. Covering the whole instrument board with imitation leather-cloth, matching the upholstery or outside colour scheme, obviates the necessity for fitting a new panel. The cloth should be stretched before it is used, in order to prevent it subsequently sagging, and it should be cut to shape with a paper template made when all the instruments are removed.

A generous margin of material should be left at all large holes, such as those for the speedometer, clock and switchboard, so that when these are replaced their flanges will secure the leather. Glue applied at the outer edge of the material will keep the extremities in place.



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 enquiries cannot be answered.

S.P. (Bristol).—Unless the engine has become unduly hot, it is scarcely worth while to coast down long gentle hills with the gear in neutral and the magneto switched off.

C.R.H. (Dewsbury).—To replace the cylinder head of your car without the gasket would not form a satisfactory means of raising the compression ratio of your engine, as gas and water leakages would be almost certain to occur.

P.F.L. (Woking).—If you specify a spring steering wheel when you order your new car we have no doubt that the manufacturers would fit one at an extra cost of about £1. The actual extra charge would, of course, depend upon the make of wheel fitted.

H.S. (Bolton).—It would not pay you to spend £12 on having your 1923 Rover Eight overhauled, as the market price of this model is now in the neighbourhood of £16, and the fact that it had been thoroughly overhauled would not increase its value to very much more than this figure.

K.T. (Horsham).—That your Morgan appeared to be sluggish after tightening the chains is probably due to the fact that you omitted to alter the brake adjustment. The chains, of course, are tightened by moving the back wheel to the rear and this, naturally, tends to apply the brakes.

E.R. (Leicester).—A correct adjustment for the overhead inlet valves of your 1923 12 h.p. Lagonda is obtained when the push-rods can easily be revolved with the finger and thumb but have no appreciable end play. For the side exhaust valves the clearance should be .004 in. In both cases the engine should be cold when the test is made.