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 Telephove: Victoria 'Jefs.


## A HUMBER CAR IN MINIATURE.

The $8 \mathrm{~h} . \mathrm{p}$. Humber here illustrated sets a high standard in the Light Car class, and an inspection of its high-grade qualities will enable one to realise why this model created such a stir at the recent Olympia Exhibition, and subsequently at the Scottish Show in Glasgow.

Every well-known Humber feature is embodied in its construction. The 8 h.p. water-cooled engine has four cylinders and is identical in design and working principle with the 11.4 h.p. and 159 h.p. models. Control is simple and accessibility has been most carefully studied.

Seating accommodation is for two, and a detachable seat in the back accommodates two children, or the space may be used for luggage.
A self-starter is incorporated, five car lamps are filted, and the Humber All-Weather Equipment, which is standardised, enables this charming model to be converted in a few seconds into a cosy weather-proof vehicle. Ready for the road, $£ 275$.

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## HUMBER LIMITED, COVENTRY.

[^0]

OOK for the name plate, "Sankey Patent," stamped on every genuine Sankey all-steel Wheel. It ensures satisfaction and safety. Welded unbreakably together from only two complete sections-that is the secret of Sankey supremacy.

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## The Lioved Sight Cor

The Proved Light Cap
 Reliability and Performance
CONSTANT successes in reliability trials in all parts of the country Chave proved conclusively to the man who takes an interest in the performance of light cars, that the Mckenzie is a car thoroughly reliable in'design and performance, essentially a proved Car.
Combined with this reliability the Mckenzie oflers beatuty of outline and comfort which makes it particularly attractive to the owner-driver. Vet another outstanding feature of the proved McKenzie is the extreme accessibility of all vital parts. This renders the minor adjustments, which enthusiasts like to make, a matter of minutes compared with hours on a less carefully designed car. Every feature conducive to pleasurable motoring is embodied in the Mclienzie.

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June 2, 1922. M.C.C. LONDON TO EDINBURGH. Three Cars entcred. Threc Gold Medals.


June 10. 1922. J.C.C. LONDON TO MANCHESTER.
One Car entered. Onc Gold Medal.
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Four-atater.
Electric Lighting and Starter to all Models.
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Large production has enabled us to materially reduce the price of the

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Here are some of its points:
GOOD CLEARANCE, low contraं of gravily and
 A Without the srimy business of removing the chain. SMA the New-Hudson to aporeciate this.
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niam bonnef, body in royal blue. beautifully
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COMPLETENESS. ELE. OUTFIT. Screen. Hood, Tool-Locher, Lugzage Grid. Three Electric Lamps Harn, Spare Wheel, Tools, Foot Pump. Front Wheel, Jack elc.
PERFORMANCE ON THE ROAD. Thoraughly re liable in every way and buill for hard service. Takes

NEW - HUDSON, LTD:,

[^1] - Birmingham.
M.G.P.E2

TO THE Bymentioning "The Light Car and Cyclecar" when corresponding with advortisore.
READER you will be working for the causc of the neto motoring.

## With Easter 'in the offing'

and "summer time" not far distant, thoughtsturn naturally to the open ai . The family man, particularly, is contemplating the purchase of a car for the health and happiness of wife and kiddies.

The finest car foe his purpose-the greatest value of them all-is the famous Hands 4 -seater, a strong. lishi, marvellously economical car. Initial cost is smaller than that of many cars possessing nothing like its merit: running works out at only about 2d a mile. Let us send you full particulars.
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The Screen that encircles the rear passengers-minimises wind resistance- and can be fitted by the owner-driver in a few minutes-Write for full details.


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Its semi-circular design reduct:s wind resistance to the minimum, whilst affording the maximum protection without extra side wings. It will not decrease the speed or increase the petrol consumption of the lowest powered car. THE SCREEN COMPLETE


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The Light Cars with the Big Car Feeling.


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 9 H.P. OIL-COOLED.
For roomy comfort, easy steering and road holding the Belsize-Bradshaw feels like a high-powered car.
Economy and silent running, the un failing reliability of the engine, and the excellence of the springing are other not:ceable features.
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 TWO-THREE SEATER CAR, FOUR-SEATER CAR, ng nliove $£ 235$ TWO-THREESEATER COUPE, ONR月ी 19.volt sclf starter
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Speedometer, it orderub sis


## THE WONDER CAR OF 1923.

$9-21$ h.p., Overhead Valves, Self-starter, 4 -speed Gearbox

## PRICES:

${ }_{\text {Double Dickey }}^{\text {2-seater }} \mathbf{£ 2 9 5}$
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Grams: "WIDAWAK. Stroud."



IT is impossible to buy a better car than the Straker-Squire no matter how much you pay. Amongst light cars there is nothing approaching the new $10-12 \mathrm{~h} . \mathrm{p}$. StrakerSquire for efficiency, comfort and value.
It is unquestionably the most remarkable light car of the year, and to adequately appreciate its worth a personal test is necessary. Consider these special features and write for details without delay.

## OME SPECIAL FEATURES.

Super-efficient O.H.V. engine. Five jío $\leq 90$ wheels and tyres. Lighting and starting set. Four-speed gearbox, right-hand change Magneto ignition. Five lamps. Sprirg gaiters. Speedometer, clock, 2 horns. Petrol and oil pressure gauges, Ex-a-gun system of chassis lubrication. Four-seater, 4 door body, ali-weather curtains. All the refinement and comfort of a large car at light car cost.

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IN THE PRICE OF THE 12 h.p. Empire Model A-C $£ 395$ REDUCED TO $£ 325$ For ease in handling in traffic, Low Petrol Consumption Reliability and Artistic Appearance, this car stanc's in a class by itself. Call to-day for a trial run

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Four-Seater
Coupe Model

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## "by roadon a Rhode this Easter".

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 PRICE 300 GUINEAS

# An All-British 11.9 h.p. Light Car 

> Models on view in London at

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proviments
AUTOVEYORS, Ltd.
84, Victoria Street, S. WW.I CAITHNESS \& Co., Ltd., 65, Great Portland Street, W.I WARE \& DE FREVILLE, Ltd., 288, Regent Street, W.I W. G. NICHOLL . . . . 50, Whitcomb Street, W.C. 2
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A trial will be a revelation to you and places you under no obligation.



## The ECONOMIC Car for Business Purposes <br> 

## 8185

with Hood. Screcn.
and Dynamo EElec. tric Lisititins. E:asy Tcrms


YOU make more calls and sell more goods if you travel by road in a "Stoneleigh." You can carry yourself and up to 4 cwt . of luggage at under $1 \frac{1}{2} d$. per mile - less than railway fare. No trains to catch. You lose no time. You profit in pocket and in health. And at the week-end you replace the back seat and share your joys with the wife and youngsters. No trouble to clean. Can be kept in an open shed.

Write for Pamphlet D and ask us to give you a Demonstration Run. You incur no cost.



BuILT BY ENTHUSIASTS FOR ENTHUSIASTS

$\$ 245$
Engine-Crouch. water-cooled with detachable combustionhead. Lubrication-Pump.automaticl Transmission-Crouch, cone clutch ivery smooth in action), propeller shalt with two universas joints between engine and gearbox. Body-All-weather, with double divided screen and spaciou. dickey seat to carry Tivo adults comfortably. (Door either side.) Dynamo Lighting Set. Wheels and Tyres Detachable steel wheels, fitted with $700 \times 80$ tyres.

## 10 H.P.

## \&275

Engine-Crouch, t-cyl., water-cooled, detachable combustion head. Lubrication-Pump.aniomatic. Transmission-Crouch, cone clutch (very smooth in action), propellec shaft with two universal joints between engine and gearbox. Body-All-weather. with double divided screen and spacious dickey seat to carry Two adults comfortahly. (Door either side.) Equip-ment-Lighting and Starting complete.

## 12 H.P.

## \&335

Engine-(British Anzani). 4-cyl., water-cooled with detachable combusition head. Lubrication -Pump, automatic. Transmission-Crouch, cone clutch (very smooth in action), propeller shaft with two universal joints between engine and gearbox. Body-All-weather, with double divided screen and spacious dickey seat to carry Two adults comfortably. (Door either side.) Equipment-Lig̣hting and Starting with five lamps.

BUY A COMFORTABLE CROUCH FOR A CHANGEABLE CLIMATE.
ASK YOUR AGENT FOR A RUN.
When in Londen call upon B. S. MARSHALL, LTD, 17a, Hanover Square. CROUCH MOTORS LTD., Tower Works, COVENTRY


You know jolly well-don't you? how fond you are of crawling from under the car looking like a lump of mud!
And why shouldn't you? What on earth's the fun of repairing the "Universal" if you can't look as if you'd done it?
But when that happy feeling fadesreach for KIT hand soap.
Here's why it must be KIT-a little KIT spreads wonderfully, and with just a little rub completely covers the hands. It cleanses thoroughly. It leaves the hands feeling clean as well as looking clean. The tin is just the right size and just the right shape tor packing. And you don't need a spanner, a chisel, and a temper to open it; the lid comes off at the first time of asking.

Price 6d. per Tin.

-COMPLETE-
4-cyl., Water-cooled, 3 Speeds and Reverse, Spiral Bevel Rear Axle, Magneto, Electric Lighting and Starting
45.60 Miles Per Gallon.
2,000 Miles Per Gallon Oil.
10,000 Miles Per Set Tyres.
The CAR that
 RECORD FOR SIMMS HILL.



9/26 h.p. MARSEAL



## Advantages of the Marvellous A.F.S. Suspension.

${ }^{7}$ CHE marvellous A.F.S. Suspension is indeed"A revolutionandarevelation' in motor car springing. Bricfly its ad vantages are as follow

1. Shocks and bumps eliminated: recoil slow and slight
2. No body roll even when thrning corners at speed.
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4. Holds the road steadily al all speeds
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6. Extremely simple: practically unbreakable.
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9. Higher speed with greatersafety
10. Makessolid tyres ride like pmemmaties
11. No need for sheck absorbers, gatiters or other auxiliary devices, necessary with even the best of laminated springs.
12 Motoring inacheap light car made as comfortable and easy ass in the heaviest and most expensive.


Price of complete set for front 15
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THE NEW CLYNO FAMILY MODEL
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ITS ROAD CAPABILITIES WERE PROVED IN The WORCESTER CLUB'S TRIAL. RESULT (1500 c.c. CLASS).


108 FOUR CYL.. MAG. IGNITION.
3 SPEEDS AND REVERSE. LIGHTING AND STARTER


ADDITIONAL MODELS:
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STANDARD Two-seater
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STANDARD Four-seater
£285
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MOVEMENT

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Friction Discs supplied for G.W.K. and other makes of friction-driven cars. - CONDENSED SPECIFICATION... f-cyl. ro h.p. Water-cooled. Tyres: $700 \times 80 \mathrm{~mm}$. Friction Disc Transmission, Spare Wheeland Tyre. Oynamo Electric Lighting. Full Equipment. Wheels: Pressed Sicel. Dickey Seat.

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Two-Seater .. 245
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"UNIT" SERVICE CAR

With 10 h.p. 4 - Cyl. Water-Cooled Engine.

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Trial run with pleasure.

NOTE. We will accept your present Car or Motorcycle in Part Payment and the Balance can be paid by Instalments if desired.

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shp. STANDARD, 2 -seater Eiso-0s. 811 p with dickes E182-10s. $8 \mathrm{~h}-\mathrm{p}$ STANDARD, 4 -seater $\mathrm{El} 190-\mathrm{Os}$. DE JUNE MODELS, Extra \&LO-0s.

# The <br> <br> NEWNH <br> <br> NEWNH <br> $\mathbf{A M}$ 

## Country Clients.

For the benefit of clients residing in the country who wish to exchange their present cars or motorcycles for new or other second-hand models, we are prepared to make a DEFINIIE ALIOWANCE OFFER by post on receipt of full parliculars of vehicle to be exchanged and type required.

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dyn. lighting, detachable wheels $\mathbf{1 1 2 5}$ CALTHORPE, 1913, 10 l.p., $\mathbf{3}$ ( 0 2-seater, 4-speed, speerlo, as new $\mathbf{\Sigma Z 6 0}$ CALTHORPE. $1916,10 \mathrm{~h} \cdot \mathrm{p} ., 2$-str., coupe. starter and lighting, taxed $\mathbf{8 1 3 5}$ CALCO1T, bel. 1917, $10 \mathrm{~L} . \mathrm{e}$. 2 -seater, starternhd lighting, inxed $\boldsymbol{E 1 3} 5$ CASTLE THREE, 1922, dymauo fighting, sname wheel, perfect ... $\boldsymbol{8 1 1 0}$


COVENTRY PREMIER, late 1922,
2-seater, with dickey, starter and COVENIRY PREMIRR, 1921. 2-seater, with dickey, spare wheel, dynano lighting … ... ... $\boldsymbol{E 1 0 5}$
G.W.K.. 1920. 10 h.p., 2 -seater, with dickey, dynamo lighting,
snare rim … ... ... ... £ 110
LE ZEBRE, 1921, 2 -seater, with
dickevdruamolighting\& starting $\mathbf{E l} \mathbf{H O}$ MATHIS, 8-9 h.p.. 1921, 2-seater.
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perfect ... ... ... ... ... $\mathbf{1 5 5}$

| MORGAN, 1921, very specia de luxe (full particulars request) | £120 |
| :---: | :---: |
| MORGAN, 1900, Graud Prix, w. |  |
| M, A G., fich tail, fue condition | ¢95 |
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| 9 -seater, starter and lig |  |
| repainled PHOENIX, O14. | £185 |
| PHOENIX, 1914. 11.9 |  |
| 3 -spater, 6 wheels, repaiuted |  |
| ROVER, 1923, S l , p. f-seater, |  |
| luxe, taxed for 1923. As new | . $£ 195$ |
| SINGER, 1916, 10 h.p. 2-starer |  |
| spare wheel, etc. | $\text { £ } 70$ |

de luxe (full particulars on request) $\AA 120$ M. AG. fichtail, fiue condition... $\mathbf{x 9 5}$ PHOENIX, $1920-11, \quad 119$ h.p., S-seater, starter and lightiug, repaimed … … ... 2185 3-seater, 6 wheels, repaiuted... : 105 KOVER, 1923. S tıp., t-seater, de $\begin{array}{llll}\text { SINGER, 1916, } 10 \mathrm{~h}-\mathrm{p} . & 2 \text {-starer, } \\ \text { spare wheel, etc. } & \ldots . & . . & \text {... }\end{array}$

Full List of over 30 Second-hand Cars sent free on request. Second-hand for Second-hand if desired. Delivery anywhere in the United Kingdom.

## 



THERE is a "K.L.G." Plug to suit each type of motor vehicle. the larger illustration above being the famous Model G. 1 for engines taking a metric thread. The other two models possess the same characteristics, the only difference being in the formation of the sparking points. The design and construction of these plugs are unique and incorporate the following features:
A - The plug-body and gland nut, which constitute the permanent portions of the plug, are treated by a special process before assembling, which render them rust proof and absolutely obviates the not infrequent trouble caused by the plug "seizing" in the cylinder.
B. - The central electrode and insulation can be readily removed from the plug by unscrewing the gland nut without the necessity of removing the plug-body from the engine cylinder. This renders possible the inspection and thorough cleansing of the insulation
C.-Complete "centres" for renewals can be supplied and carried as spares. With ordinary care the original plug-body and gland nut should last almost indefinitely.
Plugs of this type are standardised in the following cars:-

| A.C. ... | $\cdots$ | G. 1 . | G.N. |  | G. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Argyll | ... | G. 1 . | Hampton |  | G. 1. |
| Armatrong Siddeley |  | G.2. | Hillman ... | ... | H.S.1. |
| Arrol-Johnston | . | G.1. | Morris - Cowley | ... | G.2. |
| Beardmore | $\ldots$ | G.1. | Riley |  | G.1. |
| Bentley | $\ldots$ | J.1. | Sunbeam | $\ldots$ | J. 1. |
| B.S.A. |  | G. 1. | Talbot-Darraca |  | J. 6. |
| Clement-Talbot | $\ldots$ | K.6. | Vulcan |  | G.1. |

Sole Manufacturers :
The ROBINHOOD ENGINEERING WORKS, Lid., Putney Vate, London, S.W. 15 Telephones-Patney 2132/3.
Sole Export Agente-Mesara. S. SMITH SONS (M.A.). LTD., Cricklewood Worke. N.W.2.



BREASTING
THE SUMMIT.- The severity of a gradient is seldom correctly portraged by the camera, but in this snap of Beacon Hill, which was included in the Midiand Car Club's trial last Saturday, the titied car very strikingly emphasizes the steepness of the ascent.

## Notes, News and Gossip of the Week.

## Bright Competition Outlook.

Judging by the number of inquiries we hare received for $\pi$ complete list of club programmes with the addresses of the secretaries, it would seem that 1923 is going to be a record year in the competition word.

## Water Losses.

In too many reliability trials competitors are still allowed to refill their radiators with wnter at tho luncheon stop. The modern light car should be capable of doing at least a full day's journey without requiring this kind of attention.

## A Guide to 1923 Mode's. $^{\text {s }}$.

A compact guide to the larger cars, and a further special featuro dealing with the wide range of 1923 small care are contained in Tho New Car and Empire Buyers' Number of The Nolor, which will be on sale on Tuesday next, March 13th.
"Trado Within tho Empiro" is also an article of extreme interest, whilst tho following are features which will bo appreciated by motorists of every class :Buying a Now Car," "Buying Second; hand," ." Buying a Car in Instalments," "Taxntlon and Registration," "Insurance," "1923 Cnr I)esign."
No. 537. Vol. XXI.

## LIGHTING-UP TIMES

for Saturday. March 10 th. 1923.

| Landon.. | 6.22 | Edinburgh | $\ldots$ | 6.13 |  |
| ---: | ---: | ---: | :--- | :--- | :--- |
| Newcasile.. | 6.11 | Liverpool | $\ldots$ | 6.17 |  |
| Birmingham | 6.25 | Bristol | $\ldots$ | 6.32 |  |
|  | Dublin | $\ldots$ | 7.0 |  |  |
|  |  |  |  |  |  |

Lighting-up time in Ireland is one hour after sunset and in Scotland half an hour after sunset. Moon.-Last quarter 9th.

## Midland Car Club's Co-operative Tour.

Tho advantage of knowing beforchand down to a few shikings what a Whitsuntido tour will cost is fairly obvious, but, so far as wo aro aware, the Midland Car Club is tho first organization to plan $n$ tour on these lines. For the oum of £3 7p. 6d. per head members are covered no far as hotels: meals, garage, and tips are concerned from Saturday evening 10 the following Tuesday morning, ins addition to which a breakdown car, in chargo of two oxperienced mechanies, wity fullow the last car of the party. and do all that is required in the caso of need.

## G. W.K.. Ltd.

We hear that G.W.K. (1919), Lid., Cordwalles Works, Maidenhead, have been purchased by tho former foundermember of the original company-Mr. A. G. Grice.

## Sold by Crashing.

A brand-uew car being delivered to an agent in Sunderland got out of control when descending a snow covered bank up North, and running off the road completely overturned. A farmer, on whose property it landed, was so inpreseed by the manner in which the chassis had withstood the crash, that he ordered a duplicate on the spot!

## A Warning.

The Brighton pollco are warming to the tisk of trapping unwary motorists. Activity is chiefly naticeable at tho Preston Road end of tho lown. Recently two motorists were each fired 57 i0s. for exceading $30 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. The magistrate: have throatened to suspend licencea in cases wherefexcessive specd is proved. London motorists are can. tioned strictly to observe thio speed limits in the Royal Parks, and in make sure also that tho exhaust is free fmm smuko.

## For Theatre－goers

To the list of Eiluges which specially cater for theatre－goers by car，which wo published in a reent issue，must seres he added tho late Poland Streot Work－ house，which is being converted to a lvest End barage．During the war hundreds of lBelgian refugees sought refure in the building．

## The Simms Hill Film

The film taken by the Topical Budent of The Light Car and C＇yclecar rally at Sinoms Hill was shown during tho first threo evenings of this week at all the beading theatres，and wo are iss－ formed that it will carry on in other theatres for about six weeks．Readels should＇make a point of seeing the vivid portrayal of the exciting seenes wit nessed on tha now famous gradient

## A Rover Appointment

Mr．Harry Smith，who for many years has acted as managing director to the Rover Co．，Ltd．，has relinquished his pasition in order that he may be relieved of some of his responsibilities．He re－ mains an ordinary director of the com－ pany，nad his place has been laken by Mr．J．K．Starley，already well known by his connection with the company and also as chairman of the Motor Cycling Club．

## The Gauntlite Glove．

In a recent issue we publishd the first details of a new illuminated glove de－ signed primarily for night signalling． We have now examined and tested the latest product，which is known as the Gauntlite glove．The original design has been altered slightly，the right－hand glove incorporating one red and ote white bulb only．Tho former is used for signalling to overtaking traffic，the latter as an inspection dash or map－ reading lamp．Excellent quality

## LIGHT CAR－ICATURES



THE HON．SIR A．STANLEY， G．B．E．，C．B．
President of the Junior Car Club， Chairman of the Royal Automobie Club，late President of the Board of Trade．）

Though not at all fond of the lime light，
Rather signing his efiorts＂Anon． Ho norks ha：d in the cause Of the Twins and Small fours
（Cho：us，please．＂Un，Stanley， on！＇＂）．

## Novel Sidescreens．

We understand that the novet side－ screens illustrated and described in our issue dated Febriary 23 rd were mado for a customer of C ．W．Denkin and Co．，Ltd．，by the Elito Motor Depot， 22，Jolinson Street，Liverpool．


## THE GAUNTLITE Owing to its practical nature and novelty，the illumi－ nated Gauntlite glove，of which this is the latest example，is becoming universally popular．

chamois leather gauntict gloves are pro－ vided with tho outfit，which，in addition， of course，includes contacts，dry cell， lamps，and meat nickel－plated lamp－ holder．The pair of gloves sells for 35s．6d．（when ordering state size re－ quired）．＇They are mado by R．Barton Adamson and Co．，Eufield Highuray， Middlesex．

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## This Year＇s Show．

This year＇s Motor Show at Olympia， which will be held all under one roof，as the new hall is now finished，will take place from November 1st to the 10 th． The Paris Mator Show for cars，motor． cycles，und cycles opens on October 4th and closes on tho 19th．

Fronllars to Tubacco．
M．Andró Citroen，the maker of one of tho most popular French light catrs， will shortly take over the Sifate tobacco monopoly inciuding matches．l＇resum． ably A．Citroen agrees that change of work is as good as play

The London－Birminglams Road．
It is annotured that there is it se heme on foot for the emastruction of it rew motor road betwem Limmlon and Bir－ mingham．The rumte will bu as straight ns is practicable and will phiss through Aylesbury．It is statecl that E6，500 C00 will bo required to carry out the under－ taking．We should imagine that such a ronte would bo of immense vahtie to the users of commercial tranaport，but we are isclined to be a littlo sion bitical when the sponsors of the shigese state that average speeds of $1 \mathrm{~m} n \mathrm{M}$ ards of $50 \mathrm{~m} . \mathrm{p} . \mathrm{l}$ ． will be possible．We elonht if there are lery many tomring cars made fo day that would hive trouble－floe live whe they called upon in average 50 m．p．In．For two hours on end every dity of the week． Additionally，sinch is foml would not appeal strongly to the fourist

## Reductions in A．－C．Prices．

Considemble redastio．．．have luken place in the peices of $\mathrm{A} . \mathrm{C}$ ．Ass it nuw model Lwo－srater with diviey seat， varinble sloping windsctren，and pratent hood at £325．With a doulilo frlass windscreen and any－weather Jumel tho price is £345．The fouresplimeler hinsal A．C．two－senter with any weather hool is $£ 395$ ，the corresponding four seater £415．the coupe $£ 475$ ，tho three quartor coupe $£ 575$ ，and another model with a permanently closed body is listed at $£ 625$ ，or as a four－seater wlom at $£ 675$. The $60 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. sperts molel $\mathrm{h}_{1: 0}:$ been reduced to $£ 500$ ．the $75 \mathrm{~m} . \mathrm{p} . \mathrm{h}$ ．sports model is $£ 650$ ．the difierence botwen these two cars representing the cost of $£ 10$ per increaso of $1 \mathrm{~m} . \mathrm{p} . \mathrm{h} .$. and the A．－（．simgle－seater racer is listed at £1．000．

## Colmore Cup Trial Eesirlts．

The I＇．J．Evans trophy for the best performance of a cyclecar was awarded to II．13．Denley，who drove a Rhode


W．G．Bendelt（Rover）．
R．G．Spiking（Salrison）．
C．M．Spiking（Salrison）．

## Siver Medal Winners

G．Goodall（Morgan）．
F．Beglev（Austin Soven）
A．J．Diron（Singer）．
13．Wi．Darcourt（Auatin Serea）
F．W．Dasonport（G．N
F．G．Broznhead（Gwynncl
D．H．Y．Sraith（Stonoleigh）．

## Bronze Medal Winnurs

E．Astbar（T．B．
W．W．Maden（T．B．1
W．Bicknell（Coventrs－Premier）

## No Awards wers Gained by：－

J．II．Pedloy（T．B．）．
I．ISath（Austin Soven）．
T．PIMandfoid（Thalbot）．
A．W．Brittaig（B．S．A．）


AIN INEXPENSIVE FOUR-SEATER. $\qquad$ The latest C yno production, a commodious fourseater. Fully equipped it sclls for $£ 255$.

## Kene Hill climb

There is a special class for light cars in the combined Kent motor clubs' hillclimb, which is to be hild on Good Friday, March zoth. The venue is in the vicinity of Maidstone. The organizers aro the West Kent MI.C., the trials secwetary being Mr.A. E. Jessop, 91, Park End, Bromiey, Kent.

## Erooklands.

The fixture list of the Brooklands Automob:le liacing Club has now been is wued, the following dates having been fised for 13.A.R.C. op.n meetings:Fitster Monday, April 2nd; Whit Monday. May 21st; Saturday, June 23rd; Bank Holiday, August 6th, and Saturday, September 15th. The charge for admissiun at these mectings is 5 s .; transfer to paddock. 10s.; cars alongside track, 10 s.; and garage, 5 s. Tho usual chargo for admission at other meetings is 3 s . ; cars alongside track, 5 : ; garage, 2 s . 6 d . On non-race days the charge for admission is 2 s . and for cars 3s. Memhers of the public who wish to test their cars on the track on weokdays are charged 10 , per car per dav, which includes the use of the test hill.

## Legislation on Cyclists' Rear Lights.

Motorists generally will be relieved to learn that members of Parliament are comtinuing to call the allention of the fiovernment to the danger of accidents. especially on dark nights. through eyciists riding without rear lights. In tho House of Commons on Fridny last, Sir Ellis Itume Williams asked the Parliainentary Secretary to the Ministry of 'i'ransport whether his attention had heas called to the largo number of accidents caused. both to motorists and cyclists, by tho practice, which is now legal, of cyclists riding at night with neither light nor disc at the rear of their bicycles; and whether he could state if the Govermment proposed to introduco legislation with the object of remedying the danger.

Col Wialfrid Ashley, in reply, referred Sir Ellis Hume.Williams to an answer given on February 19th to a question liy Mr. Hill. Or that occasion Col. Ashley stated that tho introduction of a Bill to deal with lights on vehicles, based on the reports of the Departmental Com mittee on Lights on Vehicles, was under consideration, and the House would have the usual opportunities for discussion of such a measure if introduced.

## Alcohol in France

In order further to encourage the use of lome-produced spirit, the alcohol that is obtainable from the vineyards of France will, we understand, be legalized to bo used as a motor spirit in that

## ASK FOR IT-

## Our SPECIAL SPRING

 NUMBER, greatly enlarged, with specialanticles and copious illustrations, should not be missed. It will be bound in a more than usually attractive coloured cover and will be dated MARCH 16th.
## —NEXT FRID4Y.

country. There is no doubt that durnes the noxt five years considerable progress will bo seen in this direction, for it has teen proved bevond doubt that this spirit is suitable for use in internal-comhustion engines, and, in fact, it possesses several outstanding advantages which commend its use.

## Entrics for the

## General Efficiency Trial.

Particular interest attaches itself to the Gieneral Efficiency Trial to be held by tho Junior Car Club on Saturday, March 17 th , by reason of the number of new small cars that have been entered. Is will be judged from the attached list of entries, the result of Class 1 will be of particular value to prospective purchascrs of light cars. The trial starts at 9 a.m. at the Petrol Filling Station, Kingston Vale, and the first car arrives at Brooklands Track at 10.15 a. mn., where the various interesting tests of hill-climbing ability, specd, suspension, etc., etc., will be carried out. Spectators can obtain lunch and tea at Brooklands, where at very instructive day will be spent. There are two ladies entered. All tho cars are of strictly standard type.

## Class 1.-Two-seatera. Engins limit 1,000 ec

7 h.p. Anstin (E.. C. Gordon-Fingland)
8 h.p. Gwynne (D. Chinery).
$8.9 \mathrm{~h} . \mathrm{p}$ Tamplin (F. A. Honghenn).
8.9 h.p. F゙. 8 , (F. II. B. Sasnuriann).

8
8
h.p. Thalbot (W. Douglas Ifawkes).
8 hp Gwyane (J. Daverill).
8 hp Rover (C. M. OCannar).
$8 \mathrm{~h} . \mathrm{P}$. Rover (W. G. Bennett).
Class 2-Two-seaters. Engine limit 1,100 co. $9 \mathrm{h.p}$ Firle-Longden (C. Neville Green) Q b.n. G.N. (N. Black)
g h. G.N. (C. Finch).

Class 3.-Touring iwo.sesters. Engine limit
9.26 h.p Mareeal (A F. Caswelll.
$3-25 \mathrm{hp}$ Maracal (R. Don).
10.8 hp Nurriy (A. W. Kılahe).
11.9 h.n. $12 g a m i t ~ i w . ~ i x . ~ O z t e r) ~$

$10 \mathrm{~h} \cdot \mathrm{p}$ Merenry (A. A. Orfela).
$10.5 \mathrm{~h})$ McKenzie (G. F. Dawsn)
11 hm Waverley (R. G Mevicarl.
11 h . n . Eric-Lonzden (Eric Iongden)
Clags $4 .-$ Touring Four-seaters. Engine limit 10.8 h. Surrey ( $\ddagger$ we.
$12 \mathrm{~h} . \mathrm{p}$. Palladinm (II. IS. Smallwond).
$10 \mathrm{~h} p . \operatorname{BSA}$. (A. W. Hritiain)
10.8 h.p. Clyna is. Crekerl.

II b n. Rlles iv. G. Wnllsgrovel
j19 h.p. Iloratman (Mies W. M. Pinb)
Class 5.-Sporting cars. Engine Hmit $1,500 \mathrm{c}$. $10-35 \mathrm{~h} . \mathrm{p} . \mathrm{Marecal}$ (D. M. K. Marenday) $8.7 \mathrm{~h} . \mathrm{G} .(\Lambda$. Frazer Nish) 12 h.p. A.C. (S. A. Joycel.

 10-30 h p. Enficld.Alliay (3. T. Ahance)


A very finc four-seater Deemster cabriolet which has just been shipped a oad. This model sells complete for $£ 525$.

## THE WORKINGS OF THE LUBRICATION SYSTEM.

How Engines are Oiled Iniernally. "Wet" and "Dry" Sump Systems.

AL.11)Y inotorist of our acquaintalice recently referred to the mechanism that was revealed when she iated the bomet of her car as a motal bos with a whed at one end. We do not wish to suggest that all our readers are so blissfully ignoramt of the eternal economy of their power units as was the person in question, but to a large number the methods employed to lubricate the engine internally are wrapped in mystery.
l'resuming, therefore, that the existence of a crank shaft, listons, connecting rods, and camshaft are reatiznd and their iocations can be fairly aceurately visualized (if they cannot, reference to past numbers of The Ligh1 Car and C'yclecar, in which excellent sectional drawings of engines of all types haw appeared, will provide guidance), we can explain the more cominon methods by which an engine is oiled.


Tha simpleat type of engine oiling: splash feed with a "wet" sumpand no pump

When !ubricant is peured in through the filler, it rums to the hottom of the crankease inter what is commonly knowr as $a$ sump, which is another word for container, and the level of oil in this sump, as indi cated by a dipper rod, is usually taken as an indica. tion as to whether more oil is required or whethes there is a sufficient quantity in usc. Considerable. misapprehension exists as to how this oil finds its way to the various-working parts, a not unusual mistake being that the bigends dip into it as then revolve, and thus splash it about on to the eylinder


The pump and splash system. The troughs only are fed by the pump.

Walls and the interior of the engine. This would be a workalile method were it not for the fact that tlo cars son times run uphill and sometimes down, and owners do not always !ake care to see that there is a precise amount of lubricant in their sumps. A difference of a quartai of an inch in the level of oil in tho sump with such a system would be all that is

does not vary greatly whether the car he travelling (ij) or down hill-that is, whether the engine be tilt. d oiv not-whercas, were an ordinary sump employed, the elfective level would change every time the engine: were altered horizontally, which would result in the same cylinders hamg choked with oil and the other mos starved.
Alt the systens that have so far been discusemi


A diagrammatic representation of the "dry" sump system. Noie the two pumps.
work on whi: is known as th, "wet"sump principlo, in which all the oil in circulation is contained in the sump. On very high efficiency engines this is undesirable, owing to the fact that the lubricant does not get sufficient opportumity to cool, and eo the "dry" sump system is mployed. With this method twol oil pumps are introduced, one of which exhausts the oil that drains into the engine sump into a tank conveniently situated on some other part of the cas, while a high-pressure pump draws lubricant out of his tank and circulates it on the full forced-feed ystem to the various parts of the cugine, pipes being

high pressure systom must be allowed to warm up properly before it is given anything like fall load otherwise the oil will nat circulate through the small orifices owirg to it being too thick, and thus trould: will result. Therefore, any owner-driver of a car of Which tho oil-gauge normilly moints to, say, 30 ll . per sq. in. should take care that he does not race his engine immedialely he starts it from colld, and hos should always kiep a watchfu! eye on the oil indicator.
Some deubt used to exist as to whether it was hetter to have a definite oil-pressure gange mounted un the dash instead nf morely a pressure indicator. There is little to choose between the two. for tho pressure indicators aro usuatly arranged so that they give ample warning when the supply is failing, ilthough this present writer, as a practical motorist, normally pretiers a gauge suitably graduated and which gives at detinite reading.
The filtration of the oil which is put into the engine is very important, for ric pump can be expectid to work properly if the passages through which it takes and delivers oil are in any way choked up. It may take an extra four or five minutes to get the oil to go through the filter provided, but it is well worth spending this time, rather than to pay out a great deal of money, on engine repairs. Likewise, the brand of oil should nos be mixed. for mineral and vegetable oils do not work together into a homo-

A piston with scraper ring and return holes.


CLEARFINCE WHEV RUN IN
(Above) Showing the corrective effect on level of baflles in the sump. (Right) A much enlarged illustration of bearing surfaces before and after an engine has been run in. It explains why new engines are stiff.


SETRING SURFACE WHEN NEK:

beazing turiade when mun in.

(Left) Three different types of oil pump-plunger, gear, and rotary vane. On the right is shown why oil is better than grease for chassis lubrication. Grease collects in the worn space, whereas oil will apread.
laken off to supply the various parts. This system is usually ouly found on racing cars and acro engines, for it makes for longevity and maximum efficiency. It also enatiles cugines to be run on full throttle for hours on end without any possibility of bearings giving out.

A great deal of discussion has taken place at various times on the question as to whether it is precrablo for an engine to bo fed on a ligh or lowpressure oiling system. Each has its advantages, but from the point of view of the owner-driver it must be considered that an engine which is oiled on the
geneous compound. The oii in a dew cugine should Frequently bo changed, for the running-in process impairs its quality.
Some motorists wonder why enrtain grades of engines require different types of oil. When a power unit is designed it is constructed with a view to its running efliciently on one particular trand, and tho size of the oil passages, their location, etc., etc, are all worked out carefully with respect to the fludity of the particular lubricant recommended. Therefore, the makers' recommerdation ean generally $b$. accepted as being right.


## A Critical Causerie of Light Car Comment

## Relative to Racing.

FROM the point of view of the man in the strect, for whom, incidentally, these pages are particularly intended, the decision of manufacturers to set their faces against road races for cars during the current year is of more than a little interest. It means, for one thing, that there is going to be a certain amome of stagnation in the design of auto mobiles. In other words, we have arrived now at a state of affairs when the fouring speed of standard froductions appens to be satisfactory to their respec tive purchasers, and the competition that is no:s taking place between manufacturers is not so mbeh on a basis of chassis performance-in which may be included speed, reliability, and so forth-as on the question of price and quality of finish.

P'eople who are buying light cars to-day are not furchasing them because they form part of the equip, ment for the pursuit of a fascinating hobby; they buy them for sheer utilitarian purnoses and they want to obtain a satisfactory article at as low a cost as possible

## Public Confidence Lost.

CAR racing has probably lost a great deal of its adsertising value in view of the fact that in the past most races have been won by cars that beat absolutely no resemblance to models that the public can buy and which, incidentally are far too expensive to be put into production as standard types. After all. when a sperially built racing car runs in France under one name-and races in Great Britain under the egis of another concern the public cannot hate much confidence in the results attained and clamed. And incidents such as this have been only too common. Cessation from racing for the British industry leads to two results-one is stagnation in superefficient degign and the other is a tendency towards the production of cheaper standard cars, this latter coming about by reason of the fact that all racing expenses eventually have to be borne by the purchasers of slock ears from the same factory. Brook lands. of course, is different, for the whole racing is done on a handieap basis, and the results have little or no bearing on the actual speed of any car. Races are won on the track by improving upon the performances put up at previous mectings. Therefore, everybudy should score at least one win per senson.

B2?

Theory v. Practice Again.

THE competition driver and the desther were dis vossing gear ratios int the dratwing oflice, the practical driver adrocatinge that Jif to 1 was too high a ratio for him to restart on (iamble's Lathe. The technical expert differed amd the car went out with a 16 to 1 hottom. Result failute for petart and loss of prestige for the car. Luckily, he designer hats learnt his lesson and in the mext event a 20 to 1 gear will be fitted

Now John Willy may consider diat it is asking tow much for a smatl car tir restat on I in is but he should remember that in trials of this kind the car is not only driven by an expert. Dut. is also probably specially tuncel. Consequently, fur al teials car tu restart on 1 in 5 is about equi:alont to expectine John Willy's car to repeat the perfommane on 1 in $s$. for John Willy is clumsy with his clutch and braku. and has not de-coked his engine, adjusted his valves. or cleaned out the carburetter for the last 5,000 miles.

## Road Speed Revs. and Ratios.

1RECENTLY compared the performanc of 102? and 1923 models of the same makes and genetal layout, and found that although the top-gear ratio of the $19 \div 3$ four-specder was rather lower than the tol gear of the '21 three speed car, its all round performance on top was, if anything, rather hetter. Ques tioning the designer revealed the lact that the top gear had been reduced merely is a sop to the ant:-gear-change public, while maximum speed had not been sacrificed, as an extra $300 \mathrm{r} . \mathrm{p} . \mathrm{m}$. had heen extracted from the engine. Naturally, the improved four-specter was the more pleasnat car to handle.

## Real Reliabllity.

SOME !ittle time ago I wrole that I was carrying out a littie test of my own with a view to ohtaining some idea of how long one could run a light car without onening the bonnet. In terms of time, this worked out eventually at ther weeks, when the sump had to bo replenished with oil, the ear in question having a thirst for lubricant and only doing 5ro miles per gallon.
This mileage represents the distance covered in the three weeks. The test wis thus spoiled, hut had the oil filler been aceessible without opening the bounct the test would still he continuing. for no other prit

## l:U'II I/IXTUll! (contd.).

of the engine has required adjustment-and this after 2,000 miles. My point that it is possible to obtain a eabluration arrangement that eliminates the necessity inr opening the engine covering ant "flooding" when starting from dead cold has been satisfactorily borne out.

## Wanted : A Cross Light.

O$\checkmark$ threc occasions during a recent hundred-inile night journey 1 could have employed a cross light with some sort' of lamp that throws an oblique bram with advantage. The first instance occurred when mecting a lorry and traiters, for 1 found it diffieult to decide when it was safe to regain the centre of the road, as the length of the trailers was hidden in darkness. The sccond occasion was when the car was enveloped in fog. A cross lamp would then have been used to indicate the off bank, whilst the third and constantly recurring need for such a device was encountered when attempting to read milestones at speed.

## Too Much Oil

AHABIT I contracted during my single gear motor-cycling days was that of over-oiling-and I believe it is a fault that is common. Most of us slop an extra quart of oil into the sump for luck when filling up, and feel happy when we have a blue-tinged Whatust astern, the only pang of regret being that wo are bringing decarbonizing day round sooner than would properly be the case. Lately I have come to the conclusion that over-oiling causes appreciable loss
of power, especially in winter, when the lubricant ramains thick for long perioals. The other day I "tested" for speed with a full and a half-empty sump. There was a difference of $3 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. around the mile-a-minute gait in fasour of my newly-formed less-oil-and-more-power conviction. Of course, the idea must not be carried to extremes, but that most of us waste gond money on excess lubricant there seems little douht.

## The Crock.

It is an ancient monocar,
It climbeth one in three;
With its long, grey nose and wobbling wheels, It puts tho wind up me!
The village blackemith built it
Neath the spreading chestnut tree.)
The engine rocks, the engine knocks And races when it's free;
And it is clear the timing gear Is looso as it can bo;
And I can feel the stcering wheel
Has shifted from its key.
With deep disgnct I note the rust; Its rattles drise me mad.
The dear old thing's lied up with string,
It's junk! And yet, by Gad!
When cars of class on hills I pass
I can't help feeling glad.
For, after all, my income small Precludes a wider choice.
If, like a lord, I conld afford 1 sumptuous Rolls-Royce,
l'd miss that thrill of conscinns skill That makes my beart rejoice.
S.S.



# How Best to Get Through Water-splashes-Precautions Against, and Remedies For, Troubles That Arise. 

ACCORDING to meteorological statistics last month was an exceptionally wet period in this bingland of ours, and as a result thereof it is by no means an infrequent occurrence for the tourisi to-day to encounter water-splashes that are anything between 6 ins. and 2 ft . deep. When these are met on unknown roads they present a pretty problem for clucidation. The driver can either take his fate into his hands and plunge into the water, or he may more catiously decide to circumnarigate the nbstacle,


MORE
HASTE, Etc.

The flywhen will probably churn water on to the plugs if any attempt at speedy negotiation of water-splashes be attempted the road.
doubt arising in his mind as to whether the time wasted on the latter course counterbalances the possibility of the thood being easily fordable.

Naturally, the first thing to do when encountering a section of flooded road is to determine the depth of the water. This is not always an casy matier, especially if the flood be long; but normally some: indication can bo obtained by comparing the height of certain features of the hedgerows above the surface of the road and then noting whether the water level comes above or below a continuation of the same 12.1
frature where it stretelues oner the poweded portion of
For instance, most combry roals athe limed by a grass kerl, about 9 ins. high. If the dotal lemgth of the flood is, say. 50 yards and the top of this smass bank sisappear's for only five yards, it can he taken for granted that atoont 12 ins. will be the masimum depth. A light ear should be able to travel puite comfortably through a foot of water it it is driven in a proper manner.

All the best trials mowatays incluche some form of waler-splash, and the photographs that are repodined of competions taking these obstacles at sperd are rather misleading to the general public, for the essential in regotiating ary foolled stretch of roal is that it should be taken showly.

If a rifle be fired into a barrel of water at 100 yards range it will be found that a thickness of about 3 It . of water practically stops the bullet. Similarly, vall can very barly chip the hard wooden propeller of an aeroplane, and from some points of view, therefore, common or garden water must be regarded as very hard materiat. Anyone who lias seeu a fireman's hose smashing thick panes of plass in a buidding can easily reatize this fact. The speed of the water in such a hose is probably not much more than $4 / \mathrm{ft}$ per second, which is equivalent to 30 miles an hour, and very serious damage can be done to a car if it be driven into a 6 -in. water-splash at this speed. It would, in fact, be quite easy to bend the front axle by charging a water-splash really fast, and only recently we ohserved a front numberplate that had been flatiened backwards round the front axle to which it was attached through its being pushed into a flood at nbout 20 m.p.h.
A driver's desire should be not to get through the Hood as quickly is possible, but to take it as safely

## FEGOTLATLNG FLOODS (contd.).

its possible, and even if the speed be reduced sufficonuty low to prevent any trouble arising through that insion, there is another fact to consider, which is that internal-combustion engines do not work well when they are wet. Usually one of the lowest parts wi it car is its flywhecl, and, unfortunately, most modern cars have teeth cut in the periphery of their in wheels to accommodate the pinion of the starter llotor. As a result, it can be taken for granted that the liywhed will din well into the water of a flood that is easily negotiable, and if the engine be rebolving at all fast it will spray water un and under the honnet, where some of it, settling on the mica or pore lain insulation of the plugs, will short-circuit the ignition current and will cause the engine to come to an ignominious stop. This is another reason why. "more haste less speced" is a very true saying.

## When There is No Choice.

It often happens that it is more or less imperative fin ar ear to be driven over a streteh of flooded road, ant, providing the flood is not more than 18 ins. in duph, it usually can be regarded as heing just lugntiable.
There are nue or two other precautions to take which will make all the difference hetween success ind failure. The parts of the engine most suscentible In water are the ignition and the carburetter. It is. thowefore, a good plan to smear grease, or, failing that, oil around the outsides of the two ends of the manneto so that an effeetive seal for the working parts is obtained. Usually it is not possible for the cirluretter to be treated in the same manner, and so a piece of stout cardhoard folded so that it forms a largo incerted areh underneath the air intake will probably mevent water from being drawn into the imduction pipe, and a piece of ordinary newspaper wired lnosely on to the top of the float chamber will prevent water getting into the jets via the air vent Which is litted on the top of the fuel container of cuery carburetter
Then comes the question of driving methods. It is no use having an engine that will run satisfactorily with certain parts of it submerged if the transmission
of water getting on to them and thus they will remain dry and transmit the full power of the engine even when the lower hali of the flywheel is submerged.
Therefore, the proper tactics in adopt are (1) keep to the centre of the road so as to make best use of the camber ridge; (2) engage bottom gear aliout ten $y$ ards before the car approaches the food; (3) let in the clutch and on no account touch the clateh pedal

while the car is going through the water. Even if the flood seems simple of negotiation it is very unwise to attempt to change gear to enable the road speed to be improved without increasing the revs. of the engine.
The spark should be fairly fully advanced so that a greater strength of current from the magneto is obtainable which will assist to prevent misfiring should water find its way on to any of the ignition leads.

After the flood has been negotiated thero are still one or two points to be borne in mind if trouble is to be avoided altogether. Rapid cooling of the engine sump and crankease affects the lubrication


On the left is shown that water cannot affect a clutch if it be left "in" or engaged, and the centreillustration show s a magnelo made watertight with grease. The right-hand illustration shows a simple method of drying plugs and jets.
goes out of order, and here again wo have to deal with the fact that tho flywhecl is one of the lowest parls of the car, for in it are usually incorporated the clutch mechanisms. Those of us who are old motorcyclists know the tribulations we used to experience with belt drive in wet weather, when water formed an excellent lubricant between $\Omega$ rubber helt and a metal pulley, allowing the engine to race madly without doing any useful work. Water on the friction surfaces of any cluteh will render it inoperative in a similar manner, but in the ease of the clutel we have an cffective palliative, for if the surfaces bo left in firm contact all the time there is no possibility
system by lowering the temperaturo of the heated oil, and it is, therefore, unwise to give an engine full throttlo immediatelv after a flood has been traversed. for it reducesothe lubricating conditions to a state similar to that in which they are found when the engine is first started up on a cold morning. An engine that has had its sump immersed for, say, ten minutes should be treated carefully for the next quarter of an hour. By not running the engine fast immediately after it has been through a flood, morccver, any possibility of water that has adhered to the moving parts, lut has not previously been thrown off, reaching suscrptiblo portions is prevented.

## THE LAND OF LAKES.

A
LTHOUCI the Emerald Iste is at present in a state of unrest, the ruling combitions in many parts of the country are of a poaceful natiore and eajovable runs with an object can be takinn.

Gne oif Lechand's premier attrac tions is the Lake District, of which Killarney mar lie said to be the headgu:crers. There is no doubt that this town, in itself commonplace and uninterestit:g, has prospered mainly through the vast army of tourists which anaunlly pays ribute to the wonderfin takes.
The beantiful grounds attached to the country house of the Earl of Keu mare, the principal landlord, are woeihy of a visit, and a small charge is made for admission. Ross Castle is also a point of interest, standing like a sentinel at the end of a pemmsula which juts out on to one of the biggest takes-Lough Leane.

Incidentally, Lough loane, or the Lower Lake, as it is often called. boasts of 1 no fever than 33 islinds, of which Innisfallen has an acreage of 21
The fanciful names given to the rocks which lend a picturesque touch to the Whole of the Lake District, are indred interesting. Thus we have O'DensRhue's ". Prison Table," "Library," and " I'igeon Housc.'
In the immediate vicinity are Muckross Abbey, now the property of Mr. Rose Vincent, and the Upper Lake, the most beautiful of all.
Interes!ing rxcursions by road are as many as they

are varied. and no matter in what dinection the tourist turns, he will find something to engross him Our sketch depiets a unigue rock-lyewn tunnel on the road to Kenmare, 20 mi!es distant. Killamey is 18 es miles from Dublin, 20 from Tralec, and 31 from Macroon.

A Hint Warth Knowina.

## EXTRA-AIR VALVE AND CONTROL FOR A ROVER EIGHT.

ANa extra-arr valve, with dash control, for a Jower Eight can he made and fitted in the fol. lowing manner :- The irint pipe is first drilled athd a compression tap soldered in; this is found to be quite satisfactory in practice, as the manifold never gets hot enough to melt the solder. A copper pipe (B) $\frac{1}{4}$-in. internal diamcter is coiled round the exhaust pipe about four times, and one open end sweated into the mouth of the compression tap. This completes the valve itself

The control consists of a fin. hrass tube (C) passing through the iront pirt of the dash at $D$, which must be dilled to receive it. The casiest way of assembling is as follows:-Solder a washer (E) on the tube pass the tube through the dash. and fix a similar washer (F). These washers prevent the control moving endways. hit $G$ a learing is formed by bending a small piece of spoke round the tube, in eyelet being formed so that the hearing may he screwed to the dash proper. A plated wing-nut is soldered to the end of thr tube at 1 uo effect a neat finish.

At the front end of thי control a small arm (J), the same length as the lever on n.26


Details of the extra-air valve here described. The lettering is referred to in the text.
the compression tap, is sweated on and drilled at one end to take the connecting rod (K). This con sists of another short length of spoke, fitted with the head facing the front at $L$ and the tail hent at right angles, to pass through the hole in the compression tap at M. A light spring is fixed to the rod (K) and to the front of the dash, to prevent the control moving from any fixed position. If the brass tube is fixed fairly tightly in the bearing at the back and front, the tap will stay open in any position. After much experimenting, the place shown for the comnression fap has heen found to be the best. if the throttle lie lelt in the tick-over position and the valve be npened, the engine will speed up slightly, so one need have no fl:ar of stop ping the engine when declutwhing for traflic, etc, should the valve be inad vertently left open.
The coniplete fitment costs very little to make. ats most of the parts used in its construction may usually be found lying dormant in the bottom of the odds and ends box, merely watibg to be assmbted as is shown by the foregoing. Any convenient method of control can be: adopted. but that shown is as good as any. J.H.W.H

## Honc in

Conducted by Ehimund Dangerfizid. TEMPLE PRESS L,IMITED 1'roprictors of "THE MOTOR," " notor CYCLING." 7-I5, Rosebery Avenue, London, E.C.i Telephone-Clerkenwell siols (seven lines). 「elenranas- Pressimus Holb., London." (11)LANI OFFFICES:<br>Birmingham:-16, Bennetts Hill, corner New Street.<br>Phone-Central 6014. 'Grams-"Presswork. Birmingham " Coventry:-6, Warwick Row.<br>Dhune-Coventry 1775. 'Gramis-" Presswork, Coventrs." MIRTHERN OFFICES<br>196, Deansgate, Manchester.<br>Telembene-Central 2467. Telestams-" Presswork.


#### Abstract

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## The

## LIGHT CAR \& CYCLECAR

was founded in 1912 to cuter for the needs of users and potential purchasers of various new types of cyclecars and light cars, and it has consistently encouraged the development of this.new motoring movement for over ten years.
The journal is published every Friday. There should be no difficully in obtaining a copy at any bookstall or newsagent, as arrangemen's have been made to ensure a regular supply: Should any difficulty be experienced, we should be preatiy obliged to reccive the name and address of the reader's newsagent.

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## Topics of the Day

The Future of Road Racing in England.
A is a result of the decision of the R.A.C. to withhold a pernit from the Junior Car Club for the organization of a Production Type Tourist Trophy race in the Isle of Man, wo recently circularized British manufacturers of light cars with a view to obtaining their direct opinions" on this Price Not and similar projects. It is impossible for us to Performance- puhlish the replies in full, but they contain a
Important. Important. wealth of interesting matter and in the main show that the R.A.C. was upholding the desire of the industry by their refusal to grant a permit for a race this year. In the majority of cases manufacturers state quite frankly that they do not want any expensive events organized during the prescut season. Their aim and object is to produce their cars at as low a cost as is possible -a fact which will probanly be appreciateci by the buying public when they realize that the incidence of the expenses incurred in entering a car for anv race cventually goes or to the price of the production modele that are sold ihrough the usual channels.
This view, of course, is not universal. Taking the broad aspect, it can be said that those concerns which have attained an established position in the industry are not desirous of races being organized. On the other hand, those manufacturers who are comparative newcomers in several cases express their willing ness to compete in speed events, on the grounds that they desire to prove that their productions are as good as any others.
From this aspect, therefore, it is most desirable that competitions should continue to be held. On the other hand, it would seem that little support would be forthcoming for a really serious undertaking in view of the expense entailed. The attitude of Continental manufacturers to this question is worthy of note. They appear to be exceptionally keen on entering their cars in an English production type T.T., which shows that thyy place confidence in their machines and are desirous of obtaining publicity in this country. This is a matter which deserves the carnest consideration of all British manufacturers. So long as motoring continues to contain a sporting element, those car 3 which enter for and compete in road races will always receive is certain amount of beneficial publicity, and this is true in no mater what country the actual race may be held. With the general improvement of trade that is apparently now in proyress it would seem likely that there is a possibility of road racing being revived during 1924. The motto for the present ycar, howerer, seems to be: " Concentration on lowering production car prices, with little or no alteration in design."

## Average Speeds Again.

WHILE on the subject of speed performances it is apt for us to comment on the question of average road specds, which is again creating interest in our correspondence columns. This is at matter of more importance than might appear at first sight, for when tho owner of a small car reads about extraordinary performances put up on cars simi-
What is extraordinary performances put up on cars simithat the assumption should be made that either the performance of the car or the methods of driving are at fault. In the past we have endeavoured fully to ventilate the subject of average speeds, and have pointed out repeatedly that, although some of the extraordinary claims made may bo perfectly accurate, the performances to which they refer wero put up under very extraordinary conditions.

Generally speaking, if the owner of a 1,500 c.e. two ecater light ear can covor 30 miles consistently in each hour on a main open road, ho has nothing about which to complain and has every resson for satisfaction. Twenty-five miles in the hour is a more usual average, even under very fivourable conditions.

# GIVE THE DRIVER HIS DUE. 

IUTOMOBILIAM 10 day has attained a degree of national importance when a definite revision of the manner in which those who dive cars of any types are regarded by the public is needed. For years past it has been eustomary for the blame of all road aceidents to be attached morally and subconsiously, if not legally, to the driver of the faster-moving vehicle. Afotoring has been looked upon for too long as the "sport of the idle rich.

Commercial progress of moior transport, botio for passengers and for goods. has rendered it iniquitous that drivers of self-propelled wehicles should in any "ay be regarded as being always responsible for the accidents in which they become involved. "Hatd not ears been invented.; shouts the tub-thumping crator, "the thousands of lives that are lost through motor accidents would have bren saved. The motorist must be to blame." Obvionsly. this is the wrong way to look at things.

## Motoring Not a Sport.

Motoring foday is in no sense a sport or a pastime ; it is escentially nationalized ant is just as much a public means of convorauce as is the railway train or the ocean going liner.

When a cow strays on to the permanent way and is mutilated by a mile-i-minute express no one hames the driver of the train; yet let an incbriated pelestrian rander uncertainly across the path of a light car that is being drien al $18 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. on a wet suburban road. The surface invekes a skid and involves an aecident when the brakes are sharply applied in an endeavour to prevent total catastrophe It is then the motorist who is to blame, so far as the public is concerned. In fairness, this attitude is wrong A very large percentage of those who drive modern automobiles do so as a means of livelihond.

## From the Light Car Aspect.


#### Abstract

From the point of riew of the light car owner. and, therefore, from that of The Light Car and Cyclecar. this particular aspect does not assume a very largo importance, although it must not be forgotten that in England to-day there are very large numbers of small-type automobiles that are used by doctors, commercial travellers, and others in the ordinary pursuit of their business. For that matter, it can justly be said that so per cent. of the motoring that is done between Monday morning and Friday night in this country is commercial motoring. As a nation we are too husy to spend lave portions of our time pleasure driving, and the sooner it is realized that motoring is a رusiness asset in our uationa! life the better will it be for all concerned.

Naturally, there are offenders to be found among motorists, but the pereentage of careless pedestrians is probably higher than is the proportion of careless ur inconsiderate drivers, as a review of cducational and social status will prove The "safety first" principle, so far as motorists are concerned, requires approaching from a new angle. It is the practice of pedestrians in this country to assume that they have perfect right of way and that the: possess some intangible prerogative B2


orer other road users. Maybe this is the onteome of iuborn practice, for, naturally, walking is the oldest form of travel, and in the medimeal period it was only necessary to get out of the waty of horses, owing to the fact that horse tratlic has always been, and is now to some extent, uncontroblable-certamly it is not controllable to the degree of nicety with which an automobile can be handled.
The number of people who walk the streets with utter unconcern js a great deal fou high, and, nationally, we are sadly behind in this remed
lapid movement is the soul of porgress. Automn bilism tends towards speeding up all forms of trans port, and, therefore, it widens our scone n! mational progress and derelopment. Anything that hinders this progress is nationally to lie deplored. C'ireless pedestrianism makes for retardation of motoring development, paricularly when it conche with the supposition that the driver of a vehicte is repponsible for all accidents in which be beemmes imolend.

## Care in Conparison

As a striking proof of these statements one meded only drive down a busy thoroughfare, such as one of London's main arteries, say, during it busy shopyng period. and immediately afterwards endeavour to walk along the footpath of the same thoroughfire. Whereas one can drive down in perfect saffety and without being trondled hy other users of antrmohites. it is very unlikely that one would be athe to walk along the same thoroughfare without being inconvenienced by pedestrians who do mot look where they are going and whose preocrupation tends to make them pursuo erratic courses.
In France and America pedestrian trallic is strietly controlled. and foot passengers are not allowed to cross main thoroughfares, except at stated points. Why should this not be so in England! Time and time again in city streets we have not ouly had persons walking directly into the proper path of the car that wo have been driving-piving us cause to brake hurriedly or swerve to avoid collision-hut urtually--not mercly once-we have had persons wayl: into our stationar!! car at "'ross-rond! Under similar conditions, had it so chanced thatethe car had been moving, the pedestrian would certainly have leen knocked down, and then there would by wo means have been so much certainty that the blame was entirely on his or her side.

## The Broad Angle.

It must not be imagined that we wish light calr drivers to be regarded as the rulers of the road, but what is wanted is a fairer hearing for motorists and an end put to the idea that al! users of automobiles are, $i$ pso facto, always to blame whenever they become involved in an accident.

Legislation may be necessary to attain this and. Considering that England is supposed to bo a free country, there are laws enough to control our daily movernents, but those who are intrested in motoring and whose busincsses are either connected with, or are helped along by, automobilism will, we feel sure, heartily concur with' the above expressed sentimentsthat the motorist is not only to blame.

## TRAFFIC CHAOS APPALLING.

Extensive Repairs to London's Streets Cause Great Congestion.


Marls inconvenience is cansed to Lomdon tradlic lyy the extensive road mpaling opera lown now in pro4toss a populat a 1 it much frequented back-way ronte through 10 the Gity from the II ins Lind is now rendered implassable, long detours being found neessaty if one is to avoid the main congested tratice artwins. Practically all tho roads of any im. protance between


Tottenham Court Road and Gray's Inn Road are closed-a state of affitirs which ap pears to show a want of foresight, on the part of the rond repairing zuthorities Tu add to the general confusion, all traf. be which would normally proceed along High Holborn is now diverted via Theo bald's Road, owing to the reconstruction of the surface of the former thoroughfare.


## CLUB NEWS FROM ALL QUARTERS.

 J.C.C.'s Opening Run-Essex Hill-climb-Two-day Highland Trial.
## J.C.C. Opening Rally

Burford Bridye Hotel, Durk ing, as usual, will be the venue for the Junior Car Club's opening rally of the season, which tikes pince to-morrow, March 10th. There will a The Dan sant and a wireless demonstra tion from radio-equipped car.

## Run to Letchworth.

On Salurday last the North London Motor Cycling Club hedd its opening run, the venue being Lectchnorth Hall Hentel. There was a good muster, inclueling light cars and cyclecirs the owners of which are well catered for by this club. The nest event-a speed trial over athalf-mile course in a private park, within 15 miles of the club's headquarters-will take place on March 17th.

## Dance at Sonthampion

A supper dance, in which prizes will bo givel for fancy dress. has been arranged by the South-Western Centre of the Junor Car Club. It will talie place on March 14th at the Sonth-lVostern Hotel, Southampton, commencing iat 730 p.m. The provisional fixture list of this Centre in cludes a half-day reliability trial (April 14th), Dean Hill-climb (June 3 rd), and the Southampton Exeter reliability triad iSeplember 8th). Other events will be announced as they fall due.

## For the Mellano Cup

Three-wheeled cyclecars and fourwheeled light cars and cyclecars are eligible to competo for the Mellano 100 guinea challengo trophy. which is the premier award offered in the Une-day Relinbility Trial organized by the Surbiton Motor Club, and tiking place on Saturday, March 17 h . The start will be fiom tho Talbot Hotel, 10 in!ey, at $10 \mathrm{a} . \mathrm{m}$., and a route of approximately 100 miles in length will be covered. The trials hon. sec. and organizer is Mr. R. G. Spikins, The Broadway, West Ealing, Iondon, W. IJ.

## No Monotonous Repetition

A chango has been made in the organization of tho. Essex open hill-climo. which takes place at thic usual secret venue patmonized by this club on March 24th. Instead of each car being a!lowed a multiplicity of runs up and down the hill, nccording to the particu lar classes in which it is eligible, only two runs per car will be permitted. which will- thus remedy tho stato of nffairs on which we have previously ccmmented and which becomes so mono tonous to spectators. Entries for this event closi on March 15th, and already sufficient hrvo been received to show that this hill-climb will be one of the best supported and most important of the year.


THE UBIQUITOUS SPLASH.

No trial is complete without it rs happy until
safely across!

## Light Cars Barred

In a 20 -mile night triad and lamp test held over a Cudhain course on Febrivary 24 th the promoters, the West Kent M.C., harred light oars from taking part, nis they feaved they would block whe narrow tracks. As soveral spille occurred and some of the solo motorcyclists lost them. selves, it was perhaps as well. The trial Nitarted from and finished at tho Crown
Ina, Keston.

## Subscription Reduced

At a special general meeting of tho Disabled Drivers' Motor Club it was decided that tho financial position of the club justified the reduction of the subscription and entranoo fees for 1923 to 10 s, and 5 s , each respectively. An interesting programme has beenf fixed up for tho coming season, beginning on April 7th with a rally at Combo ljank, Sanbridge, near Soveroaks. Particulars of other ovents may bo oblained from the hon. secretary, Mr. L. L. Maxwelt, 48, Grosvenor' Square, Ioul don, W. 1.

## Costume Revel

The Wallington Motor Club will hold a "Costumo Revel", at the Public Hall, Caryhalton, on Friday, March 16th, Miss Inlda Cowham, Ho wall-known artiste, will judge tho coshumes, for rhich there will be prizes. Tho AllanTaylor Cup Trial will Lake place on Saturday, March 10 th , starting from tho Greyhound Ilotel, Carshalton, at 2.30 p.m. Besides tho Allan-Taylor Cup there aro three silver cups to bo won outright. This event is only open
kilums. The antoy fee is 300 lire pes cur, 500 hire for two cirs, and 750 lire fur theree. Ent es cluse on March 15th. the address of the uginizers being
S.1.A.S., 16, Via Nieni. Milan.

## A Busy Season

The following is a list of the principal events to be held by the Sheffiek and Kallimshive M.C. and I.C.C. durmg tho seasorl. It should ixe puintel wit that they include only these fixtures of interest to hight ear owners:-March 184, opening run (Eyam, Highcliflo Hill) ; Ahiy $19 t_{1}$-20ch, shetheld-IIum-stanton-Sheffield), 24-hour reliability trial) ; July 28th-29th, Shellield-Holy-heal-Sheffield (24-hour reliability triat); December 26th, l3oxing Day reliability trial. On Angust 18 th the Yorkshiro Centre A.C.U. will hold a speed event at Shoffield, the Sheflield and Hallamshire Club being responsible for tho organization

## Two-day Highland Trial.

The Scottish Western M.C., I.ld., Two Nays' Ilighland 'Trial takes place un Salurday. March 31st, and Monday, $\Delta$ pril 2id.

The route will be through the mountains of Argyllshire, and the Surday will be spent it Obam
This year the club aro making an effort to secure a large car entry, and a very fine challenge trophy is being offered for the best performanco in the car class.

There is, at presont, evory prospect of this ycar's event being tho largest the club have ever rum, and even now, before the entry forms are out, the trials secretary has received a good ontry.


IMPORTANT
PRELIMINARIES.

Competitors in the Midland Car Club's Economy Trial applying for numbers and route cards at Henley-in. Arden, the atarting point.

SMALL CARS IN THE ECONOMY TRIAL.

NBARLI thee dozen light cars, none of which cost moro than £350, took part in the Midland Car Club's trial last Siturday. The course chosen varied from first rate main roads to extremely narrow, greasy and rutty farm lanes, which generally included a stifi l:ill, such as the ordinary tourist would probably go miles round in order 10 avoid. Under theso conditions the rmall cars put up an extremely creditable show, and, despite trati: blocks cis

the marrow lanes, managed to maintain their average of 20 miles per hour.
T'wo cirsuits, starting and finishing at Henley-in-Arden, completed the course. Soon after leaving Henley a very greasy hill had to be tackled, hut as most oi the competitors ran on Pareons chains,


THREE INTERESTING "GADGETS."
(Left) How one competitor in the Economy Trial improvised a card holder from a trousers stretcher. (Above) The felt washers on the rocker arm pivols of Capt. Brittain's B.S.A. (Right) The toe-operated reverse catch on the 8.9 BaylissThoma.
this caused little trouble. Morgan and chers were delayed, owing to incetins several horsemen on the way to a local meet, an indication of the narrowness of tho track being evident from the fact that there was not room for the Morgan and the horse side by side in tho lane. The last to start was Marendaz (Marseal), but, although he arrived very late, he managed to make up for his loot time.
There was nothing of a very startline note, other than occasional traffic blocks in the narrow lanes, until Magley Wood

 the grease was so deep that it almust touched some of the brake drums, so that it was not surprising that Frank Whitrorth (Coventry-Premier) stuck, and had to call upon his threo daughters to assist l:im to get out of tho bog. Most of the other cars climbed extruordinarily well, Austins, Morgans. Mhodes, Bayliss Thomases, and Stoneleighs climbing the long drag without any signs of iatiguc. Another car to show up well was Cocker's Clyno. Gravel Pit Hill, a short 1 in 6 rise, caused no trouble, nor did the well known Gaby Glide Hill, which "as so narrow that a non-competing car removed part of its running board on the bank. The hill was very rutty aud terminated in a gradient of about $i$ in 6 , but the performances were abain univer sully goud. The Gwynne Eight, 13.S. $\Lambda$. Covertry-Premier, Cajthorpes, Marseal, and A.B.C., among others, went up well. the drivers of most of these cars haviog taken the precaution to fit licir parson-

## The Acceleration Teat.

The same circuit was followed aftor lunch, and ineluded acceleration and stopping and restarting tests at Romsley The best performances in the acreleration test were made by the following :-
Morgan ( 8 h.p. Morgan
Marendaz (9 26 hall Maveal) 11 Catweil ( 9.26 h.p. Marseal) .... 11 亳 Croodwin (11.9.1.p. Bequ) … ... 12 Brituain ( 9.9 h.p. B.s.A)

121 Watson ( $8 \mathrm{~h} . \mathrm{p} . \mathrm{Gwyme}$ ) Walker ( 10.8 b.p Bayliss-Thomas) Meredith ( 8 h.p. 'T.B.)
Cocker ( 10.8 h.p. Clyno)
Norris ( $9.5 \mathrm{~h} . \mathrm{p} . \mathrm{Mhode}$ )
Most of the cars made gcod restarte, but Chippendale ( $8 \mathrm{~h} . \mathrm{p}$. IIorgan) was alow, Loveday ' ( 89 lh:p. Bayliss-Thomas) missed nis gear. and. Clifford ( 7.8 h.p. Austin) slipper back a bit, and was boiling.

Incidents in the afternoon were faw. Miss Bishop ( $9.5 \mathrm{~h} . \mathrm{p}$. Rhode) failed through a temporary seize on the first hill, while Hawkins ( 8.9 h.p. Baylise. Thomas) failad on Hagley Wood, and Watson (Gwynue) and Heath (Austin) fuiled to slart on the afternoni's run,

WEEK-END EVENTS (Contd).

Mr. H. F. S. Morgan reckons to use one Parsons chain in each trial, in which Colonial sections occur.

A local man, near Hagley Wood Hill, after encountering several cars, stated that there would be " a deuce of a row as the hounds wero meeting nearby

## uel at Aston Clinton--Successful The Side of Ivinghoe Beacon.

## THE LONGMAN CUP TRIAL RHO JE AGAIN SUCCESSFUL.

The Lungman Cup trial, held by the Jalling and District Motor Cyele Club on Saturday last, consistel of two circuits of is fairly severe course mapped out in the neighlourhood of liplez and Shere, nid at stiff but by no means unfair 15 -in. water-splash, which caused no trouble to the cars (with the exception 0!: : Morgant, but was the undoing of a number of sutarcycle competiturs. thas prowng the superiority of the cyclecar. In thes stopility and restanting te-t the bert performance among the cars was made by W. Cooper on his 11.9 h.p. Morris-Cowley, while good shows were mitade hy Mini lill on his Rhode and F. R. C. Spikins on a Salmasou.

The majority of the cars last therr 1012 -stap rums througis minor troubite, and in come cases through bad driving. The l.origuan Cup, for the best per-

## OXFORD v. CAMBRIDGE.

Aston Clinton IIill, near 'Tring, was the ecenz of an intereating Varsity duel on Siturday last, when Oxford and Cambridge conterted the homours on touth motorcycies and cars. the till, which is 968 veds. in length, and which has ath average gratient of 1 in 14, in ideal for both compretitore and spectatora. Jeading off with a sharp rise of 1 in 8, the road turns sharply to the right, and then wwings round in an irregalar bemicircle to the summit. Stationed at the first betse, one can view the complete ascent of any cats from the bottom tu the top.

## Crowds of Spectators.

The hill-climb was well supported and exceedingly popular, if one may judge from the crowd of cars which gathered at the foot of the hill and were parked upon each side of the road for nearly h guarter of a mile. The marshalling arrangements were excel. lently carried ont, whilst electrical timing was again used.

We recommend to the club's secretary that the light car classes should be canfined to engines of 1.500 c.c. capacity. thus conforming with the general and
acceptud defimtann of a light car. It the event under discrission the clises for cars $u p$ to 1,600 c.c. did not perture one aburp thim limit. A G.N. made fastest time of the day, but excellent ascents were also marle by MeNeill's A.B.C. and Wialkeley' Hillman.

The detail results of tho elimb hatin net yet leen contirmed by the organizin: club.

## UP THE BEACON

The efforts of winners of light cans and metorcycles to lind " new" un" climb:able hills appear to have been given a stimulus by our recent surcessint rally at Simms Hill, Devorshire. Copi dine, near Ludleigh Salterton, is, we understand, now being given a certain mmount of publicity, althongh, strictly speaking, this is not in ally sells. ot the: term an interesting hill. fur wo first " discruvered" and tiuen climbed it without chains on as Spots Moxlel A.C. on the diy of the Simms a Hill sally: Accordirty to local gusip, it had pre viously been climbed, only by a liolis. Roge, but apparenty ours wats the first light car to make the ancent. Its gradient is reputed to be 1 in 3 , but vur experience proves that it id in so senae a difficult climb. Nearer to Landan events have been happening in the moturcycle works, and on Sunday liat we witnessed II. R. Harveyson succered in climbind straight up the bluff side oit Ivinghoe Beacun on a 2 3 h.p. S.J.… muto-cycle which was fitted with :t spiked bick wherel. similar to thone use. l oll the $-1 / v i s$ at Simme Hill.

## Gradient of 1 in 1.54.

The gradient of Ivinghoe is definitely 1 in 1.54. and there is, of course, in made ruad up the side of the Leacon. It is very doubtful if even a CitroenKegresse could climb this cliff, for is is almost impessible to walk up it. the gradient being actually as steep an stairs. In the meantime, other men. bers of our staff have found a "new" hill in North Wales, which will be described and illustrated in our next ("Spring") issue, and in the summer it is probable that we shall organize a hill climbing rally on it, similar to t!e Simms Ĥ̂ event.
> (3) Held up. Two BaylissThomases driven by E. Walker and W. H. Carson are delayed in the Midland Car Trial by a horse and cart in a narrow lane. (4) Spikins on a Salmson streaking up Peaslake Hill in the Longman Cup Trial.
> formance in the whole trial, was won by W. Cooper, on his Morris-Cowley. The best light car performance was made by B. Alan Hill on hisi Rhode. He also scored the second best performance of the day, while F. 1. G. Spikins was awarded a bronze medal.


## An Interesting Comparison by Road Test of 1923 G.N. Productions.

TIHE G.N. has always iormed part of the history of the genuine, cconomical, small-car movement; in fact, it ranks as one of the pioneer cyclecars. Its development, therefore is the result of first-hand experiences gained not only his many years' devotion to the design itself, but a!so by the efforts which have heen made to meet the wishes of small-car enthusiasts.

## The Two Engines.

Two specifications, differing only in that most vital factor, the power unit, form the prescnt basis of the productions of G.N. Miotors, Ltd., East Hill, Wandsworth. The one includes a side-valve, two-eylinder, air-cooled engine, the cther a four-cylinder, over-head-valve water-cooled, hoth being inside the cyelecar limit of $1,100 \mathrm{cec}$. That part of the specification common to cach includes a new type of plate clutch. is three-speed-and-reverse constant-mesh gearbox, and final drive by helical bevel to the differential-less axle. The chassis was fully described in our issue dated Octob $\cdot \boldsymbol{r}$ 13th, 192.


Io addition to aseful locker under the rear seat of the four-seater, a capacious chest, in which all the usual tools can be accommodated, is provided on the running board.

As a means of obtaining firsthand arguments in connection with the controversy, "twin "or "four," tests of the two models provided a unique opportunity, of which we have recently been able to take advantage. The answer, so far as our experiences go, places us in a quandary. Both types boast of all the advantages attributable to them by their supporters, and, after due deliberabion, we can only sum
up the position loy statiag the case in the folluwing manner:
"Tho "four" will do everything of which the "twin" is possible, and vice versa; that is the "four" is more easily managed--by a laty driver, for instance has more the appearance and possesses all tho qualities of the small car, as it is hecoming generally recognized, then we recommend it in preference to the "twin."

Modern manufacturers must pander to the whims and fancies of the public, upon whom they rely for support ; hence one's opinions must be: influenced by this consideration. We repeat, hovever-and lay stress on the fact-that only a general efliciency irial would disclose the more efficient of the two types.

We have now to record our candid impressions of cach, leaving it to the individual motorist to form his own conclusions.

## Out with the Air-cosled Model

The twan-a practically " lactory "en" modelwas first placed at our disposal. The engine and transmission were inclined to bo "tight," and wo were fully alive to the fact that we were not putting it through its paces under the most favourable conditions. Nevertheless, we drore it without restraint and had no grounds for disappointment.

Our only mechanical trouble was cansed hy a sticking clutch pin, and, until this was eascd, "slipping" was difficult and chattering, when getting away, pronounced. Considering that this represented the sum total of the trouble experienced with a brand new vehicle on its first real road test, it speaks well for the general design and workmanship of the $G \mathbf{N}$.
The suspension is remarkibly good. The car "floats" over potholes and does not roll or sway at speed. The seating is comfortable, with plenty of support for the legs and lack, and the dickey seat has been slightly enlarged, so that a grown-up can occupy it in comfort. $\Lambda$ refinement has been alded in the shape of a narrow, hinged flap, which facilitates entranco to tho dickey aud which can be permanently propped up to clear the occupant's kinces.

The hood provides ample headroom, and that most desirable feature, a large mica rear light, which must be quite 18 ins. long by 9 ins. decp.

To get the best out of the enginc, duo regard must be paid to the magneto control kuob, and this might, with advantage, be placed on the off side of the steering column (as on the four-cylinder model), where it is far more easily reached.

The exhaust lifting device is a boon. On the coldest morning the engine can be unstuck without difliculty

## 

and stantal up without undare effort. When it is warm a simple, sharp pull up suffices. Oiling is, of course, by antomatic drip feed, but, in addition, at hand pump is provided.
The silence of the 192? arr-cooled (B.N. twin will appeal to a vast section of the motoring public, but, speaking personally, it was with at certain amount of lingering regret that we noticed the absence of that typical bark for which the G.N. was famous. Oil and fuel consumption are on a par with previous modelssufficient guarantec of cconomical running
On the wall the engine is smooth and vilmationless. It swallows mptinn yoad hills and does 10 in.p.h. casily on the level. It gives one the impression that it is doing its work quiclly and without fuss, but at very low speeds on top gear the snatch inseparable from two eylinders prompts extended use of the lower gear. On its bottom gear it should climb any hill that the enthusiastic tomrist is likely to meet. Ai all times the eylnders remain cool, and preignition is absent.

## The Surprising "Four.

Turnins now to the four-cylinder engine, this is yet andethre revelation of what such a diminutive car chgino is capable. It could be easily "swung" by the weakest of the weaker sex, if swinging were at any time nocessary. As a malter of fact, our experiences taught us that it started more casily than the twin. Capalale of surprisingly high r.p.m.. its acceleration leaves nothing to be desired.
On the intermediate gear it will attain 30 m.p.h. in a matter of a few steonds, whilst the degree of flexibility it possesses is proved by the fact that we ascended to Hampslyad Heath, via Fitzjohn's Avenue and Heath Street, without changing gear. In parenthesis, we would mention that "Fitzjohn's" on top is fairly good going, whereas Heath Street frequently demanils a change down on cars of greater horsepower.
Fior a small four-cylinder joh, it is not unduly fussy and its performance in tralfic, assisted in no smali measure by the sweeturss of the clutch action, is of the top-gear order the suatch of the twin being noticeably alsent.
The oiling and cooling arrangements follow standard fourcylinder praclice, and both magneto and dymamo are geared up direct. The over-
hinged, aluminium coser, the rockers and batpows lacing lubricated by oil spray, which rises up ath "wor the push-rod chamber at the side.
There is murh that mas be said which is applicable:


An interesting feature of the 1923 models. The swivel heads are weatherproof and fitted with single ball - thrust bearings. Note the dropped steering arm and the slave leaf in the apring assembly. The Dunlop disc wheels give true centrepoint steering. (6) hotls the twin and thr. four - cylinder chassis. Th. sterering is sood, inso much as it is light and rr. sfonsise, but the lock is rr strictad a point which calls for imme diate remedy ars it only en rials an extrit stuering - irm muvement of a $\mathrm{p} \boldsymbol{p}$ roxis mately $\frac{1}{2}$ in.

Grar-chang
ing is. of crurse, dulicht tully simule. but experi enced drivers will domble. cluteh when changink down, not be castse it muma bu done, but hecause cleaner and dead-quict operaion results.

The brakes are beyond reproach smonth, velvery, and sure in action, whether they foe applied it - $1 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. or $40 \mathrm{~m} . \mathrm{p} . \mathrm{h}$.

The electrical equipment bears the name Millar, and includes combined hoad and side: lights, tail light, and, on the "four," a starter. The carburetter is a Solex and the magneto an M. I.

One must comment, in passmg. nn fite very attrac tive four-seater all-weather model couchwork. Th. interior is well upholstered with the usual types of front bucket seat, that on the pras senger's sidn, of course. tilting "!! to prrarit of easy accoss to the rear
 The space for the back passengers is aniple, and when the nide curtains erected, the interior is veny sume and cosy, the whole car forming an ideal ianily vehicle. The double-panel wind s:leen is a refindment seldom fount on so small a car.

The prices of the two models aie: as follow:-Twin-(y) linder: Touring model, with dickey stat, E105: threc-quartrr croupe, with dickey seat, $£ 215$ : four-seater : ©g 5 . Four-cylin. dor: Touring model, or it h dichey seat. $\mathbb{E} 2: 35$; threcequar teatcoupt, with elickey seat, £255; four-scater, \&255.

An extra charge is made for specelometer and starter.

The traditions of G.N. cars,
The 1923 G.N. body is of very pleasing and barmonious

ON IMPROVED
'LINES.' outline. The large photograph shows the two-seater air cooled car, whilat inet is a view of the all-weather, four cylinder four-seater. horn more than $n$ decade ago, are worthily upheld by the $19 \because 3$ productions, which we can comfidently recommend.

## THE UNCONVENTIONAL VIEWPOINT.

Why Not an "Oil-less" Car?
क.t
By CRITIOUE.

ALTHOUGII it may sound paradoxical, the perfect light ear of the future will be one in the tool locker of which neither nilean nor grease gun will be found. Truc, these accessories are sometimes absent cren on the imperfect car of to-day; but the


The oilcan and grease gun should be acceascries found only in the repairshop. Screw-downgreasers should be abolished
reason in each case is different. On the perfect car an oilcan or grease gun will be unnecessary: their presence on productions in this year of grace 1923 depends on the generosity of the manufacturer.

No doubt the perfect light car is possible-at a price - hut as manufacturers cannot make a silk purse out of a sow's ear, and designs are limited by the degrect to which the public is willing to subscribe to the finished product, the penurious afliction of the motoring community is really the seat of the trouble.
ifleanwhile, without aiming at such giddy height:3, the light ear lends itself to improvements which should add litule to the purehase cost but a great deal to the comfort of the uwner.

For instance imagive the interest which would be created by the announcement :-

## Sensation of 1924

## The 10 h.p. Reliable.

```
NO GREASING!! NO OILING!!!
```

Recalling countless miserable half-hours spent in chilly garages, oilcan in hand, his person soon beariner obvious traces of the work in progress; then the dissatisfied conclusion to which he is forced to come, namely, that most of the oil will find its way on the bearing surfaces weil mixerl with med and grit. the owner-driver would greedily examine the chassis of the $10 \mathrm{~h} . \mathrm{p}$. Reliable and grudge not one whit an extra £20 on the purchase price.

From time immemorial in the history of machinery the man with the oilcan has added a picturesque touch to photographs and sketches. He is a typical en gincer-the hero of our youthful days when, choosing our future career, our minds were torn betweon the conflicting emotions aroused by such pictorial gems and the counter attraction of a guard's life on the Flying Scotsman.
We cannot all be guards, but apparently, willy-nilly, if we drive a light car we must be "oilers.", Why? One light car of which the owner wots is turned out with excellent credentials in that it requires oiling at a minimum number of points only, once in six months. This is a step) in the right direction, but it does not go
nab
sufficiently far. Wre want a car which never requires oiling.
The idea conjures up multitudinous aspects of the question. Oil-less, or, to put it more correctly, selfoiling parts would never suffer from a lack of lubricant; requiring no attention, they could nut be neglected, and, further, they could be adequately protected so that mud, grit, water, ete., were rigidly excluded.
No mental effort is required to follow the reasolning that. consequently, the carr, as a whole, would hate a much longer life and that breakages would be far lase common. More than half the wear and the majority of breakages are caused by the slow but insidious workings of rust.

## A Real All-weather Car.

To make every vital part self-oiling and weather tight is to introduce an all-weather car of a new type, one in which machincry as well as man is consideread. What is good for man is also good for his machine:

Exactly where and how the treatment should begin is, of course, a problem of primary importance, but the spring gaiter immediatcly presents itself as an example of the type uf self oiling and weatherprooting which the writer has in mind.

Well packed with suitahle grease, a veliable and well-made gaiter will last the life of the car' ; so will the grease within it. When the damage done to spring. hy rust is considered, the advantage of the gaiter is obvious, and one naturally marvels that this, at any


A front hub requires gieasing on an average about once in twelvemonths. Ball races, therefore, should form the foundation of the moving part in the oil-less car.
rate, is not made standard on every make of car worthy of the name.
The idea is capable of extension. however, for, as a rule, the gaiter ends just when it is beginning to become useful, i.c., it stops short at the spring anchorages at each end. Many a holding-down bolt or U-clip has succumbed to the overpowering assault of the rust fend
Spring shackles, usually served with grease by means of screw-down cups, but sometimes left to the tender mercies of the owner, might also be fed from the store of lubricant within the gaiter. The combined spring cover and oiler would at once eliminate $n$ liart of the oiling curriculum to which every motorist nbjects.

## Some truths about the AMAZING 'A-C'

The Amazing


12 h.p. Car.
North more, , ham
ant other."

The most practical evidence of the wonderful every-way efficiency of the "Amazing 'A-C'" is the mass of enthusiastic praise bestowed by 'A-C' owners. Some few of the thousands of delighted opinions are quoted below. The various 12 h.p. models include types to suit every requirement, and - 2325


12 h.p. Car.

* Worth more than any wher.

Mr. A. Fustance says:the performance of the car

More than satisfied acith
A Royal 4 -Seater 'A-C '
Mr. H. W. Egerton says:-
' Nezer had a car ichich has gaten me more pleasure and less trouble."

An Empire 'A-C'
Mrs. W. G. Smithson's opinion :-
" Best and most scicntific job in the Mofor showe of $192:$.

A Royal 2-Seater 'A-C'
Mr. Eden Gawne's experience :-
" The acceleration is a reiclution."

A Royal 2-Seater 'A-C'

Mr. Ivan F. Heyn, in his second testimonial :-
"The handsomest light car that I have ever seen." A Royal 2-Seater 'A-C'

Mr. W. Stuart Low says:-
"Kan a ichole year acithout an! repair." An 'A-C• Royal Coupe

Mr. G. A. R. Rawlings declares :- "The rev!! pinnacle of efficienc!!

A Royal 2-Seater A-C

Mr. J. Ellis Benson writes :-
The most comumicai car I have sier mioned.

A Clover Leaf ' A-C'

Mr. S. Leslie Mchean says :-
light car acorld to touch it." Nothing in the A Royal 2-Seater • A-C,
W. W. Buxton says :little car."

- 1 zonderful and efficient

A Royal 2-Seater 'A-C'
" Lightear and Cyclecar." January 14th, 1922 :-
" Fully despres i!s recognised position."
H. V'ernon-Hunt in "Daily Express." December 15th, 1921, calls it :- ". In aristocrat amon!g small cars."

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in "The Light Car and Oyclecar" intorest you.

## THE: UNCONVENTIONAL YTEWPOIVT (con.).

The critic now interjects, "Ideal until you break a U-bolt or a spring. Then the cusuing mess rather robs the idea of its beanty!" The reply is that


Many a U bolt, faultess in the first instance, has succumbed to the evil effects of rust-hence the need for extending the spring gaiter as suggested.

U-lwolts atid springs should not break.
"You cammot cuarantee materials."
Says the critic,
Too true.
If materials could loc absolutely guaranteed countless small tronbles woald be solved and an entirely new type of car would be evolved
libaders will remember the disastor at Charing Cross Stalion years ago. When the Ereat sitsgle spatin roof collapsed. Inquiries were held, experts called in, and the result if one remembers rightly-was summed up in the two words " lanles materials" : but we do not hear of a Charing Cross rooi col lapsing owery few days, whereas spring heakages are common. Lives are at stake, nevertheless, and if ofl cial impuiries were instituted over these frequent mishaps, broken springs would become the exception and not the rule.

The same argument applies to sterring commections.," If they are encloseci in gaiters," it is argued. " the owner camnot spot a loose pin or even a broken connection." There should be no necessity for the "spotting." business. Stecring connections should be absolutely dependable If it he impossible to rely implicitly ot the materials used in automolile construction. then raise the factor of safety. A in. instead of a $\frac{1}{a}-\mathrm{in}$. pm, in numbers, will not add greatly to the weight of the car. P'ut a little bit more metal into the connections and make surc of them.

## Awaiting the Millennium.

With spmings, shackles and steering connections adequately provided for there remain few parts to create difliculty. Experience hat shown that ball races well packed with grease and fitted with suitable oil-retaining washers will last indefinitely. This covers frontwheel fubs and other bearings, but why not introduce small ball races in the pedal and lever assembly? They are not too costly, and their number would not be legion!
There is one vital component that must be oiled at fairly frequent intervale, and that is the engine. Until we arrive at the millennium of motoring, selflubricating engines wilt be unattainable; yet, before then, we may lubricate our power units via tho carburetter, oil and petrol being introduecd together on two-stroke engine lines.
The transmission and, more particularly, the clutehwithdrawal mechanism, remain to be dealt with. The latter might run dry, "oil-less" fibre pads of ample proportions taking the place of thrust races;
or, if heatisg troubles ie anticipated, then the with drawal mechanism might be housed in a "clutch fork box." which could he packed with grease, just like a gearbox or back axle.

## The Annual "Oil-up.

No une but an optimist bordering on mania would suggest that a car equipped as outlined above would run for 10 years without attention, and here we come to the creain of the argument. Periodically a car goes into dock. It is nothing to be ashamed of, the signifi cance of the borrowed metaphor should explain that Assume that it is "docked" once every 12 months, then an accepted part of its overbaul would be the re packing of all components throughout with grease.
Perhays in the for going l have carried my dreams of an oil-less car too far. Perhaps I have over-estimated the carmbilities of any manufacturer to guar antee his product against the smashes which must inevitably follow ill-usage.

At any rate, I trust that my suggestions contain the germ of an idea which may spring into life, cast un a tender shoot, and, in time, nursed by the sumshine and rain of public opinion. hecome a sturdy sapling of which the world at larke: -and particularly small-car makers -will take notice. If so. nis lalmur will not have been in vain, and the world may be a hetter place in which to live as the result of the elimina. tion of a messy and uninteresting operation.

## The Epilogue.

Let us suppose that the oil-less car is actually with us. What then?
Now for the epilogue. Mr. Owner driver takes delivery of his $10 \mathrm{~h} . \mathrm{p}$. Reliable, secure in the knowlodge that every moring part is well packed with lubricant. Reliable hy name and in construction, it will merely ask to be filled up with petrol, engine oil, and water. Wet or fine, by night or day, it can be driven out on highway and byway, always ready for its work, without a single complaining squeak or groan.
Really, it is not so impussille as it soumls. Think it out.


Prominent features of the oil-less car would be spring gaiters, enclosing not only the leavea, but their anchorage as well, in order to lubricate pads or shackles and to guard againal rust. The brake mechanism would to guard againail ruat. The brake
also be enclosed

## A VARIABLE-CHOKE CARBURETTER.

## Latest Binks' Production Allows Sensitive Control of Mixture Strength.

Acarburetter of more than ordinary interest hais recently been derised and produced by Messrs. ©. Binks, of Eccles. In effect, it incorporates : device lyy means of which the driver can vary the strength of the mixture supplied to the engine, so that he call obtam - ither maximum economy or maximum nower at will aud as occasion demands.
The constraction of the new iastrument is made clear by our sectional drawing from which it wi!l be noted that the main jet protrudes into the contre of the venturi tube, go that the petrol issuing from it is always delivering into the air stream at its point of maximum velocity: The or dinary compensation of the mixture at varving engine speeds is provided by the secroll formation. This seroll is hollow, and is provided with petrol orifices lwoth at the ton and bottom, the main supply of fuel leading into its centre from the Hoat chamber. while "leak" holes nenr the bottom feed the spiral duct formed by the scroll. Suction on the main (top) jet prodrces variations in the supplies cbtained through the eentre and around the sides of the scroll. the varying proportions being determined scientifically, so that constant-mixture strength is provided throughout the normal range, while sudden opening of the throttle causes a surge of fuel from the iet to proride good acceleration, this action again heing controlled by a fixed air orifice communicating with the main fuel well (not shown in sketch).

## Easy Starting.

There is also a separate "pilot" jet for giving an adequate mixture for starting and idling in neutral.
Thus far the instrument operates as would any fixed type of carburetter. but in the venturi or choke orifice there is placed a suitably shaped plunger, which can bo raised or lowered by the driver of the car through the medium of a control on the dashboard. The effect of this plunger is to enlarge or reduce the effective size


> Showing cleariy the component paits of the new Binks carburetter. The float chamber is omitted for clearness.
wif the choke, which inmeneli. mely induces a difference in the degrec of suction excrcised on the jet. Note that the amount of fuel issuing from the jet depends on the suction, and that this suction $v i r i$ es according to the throtule opening and engine speed, thes? two factors wimg normaliy compensitad throughout the range.
The effect of the variathe hoko or plunger is to strengthen or weaken the :rercegc mixture olitained, which means that when on thar a weak misture cath be vised and maximum commery obtained, or, conversely, for top gear hill-climling. "le: a rich mixture can be utilized with bencficial results. point that should be quite elearly understood is that it not necessary to vary the daah control as the thronte is opened or shat-a decided adtantage. Thi ordinary compensation of the mixture is unaffectued an entirely different st:ite of affiairs from that in evidence when an extra-air inlet is fitted.

## Good Performance.

We have tested oue of these Binks'instruments for a distance of ove: 1,500 miles on a staff light ear fitterd with an Anzani engine (four-cylinder), and have obtained excellent results.: Two chnracteristics deserwe commendation. On starting from cold the control is set to strong (i.e., the plunger is depressed and the choke area reduced), and the result is that almost full power is available from cold. There is no splutterjug and no fat spot. Secondly, the top-gear pick-up of the car is appreciably improved-a useful trait when much traffic driving has to be done.
On the open road, casual use of the choke control gives a saring of threc to four miles per gallon, and the combination of the above enumerated features makes this latest Binks' production worthy of more than ordinary consideration on the part of the motorist who is keen on obtaining the best results from his car.

## Car-drivers and Accidents--Passing Standing Tramcars.

AGOOD deal is heard to-day of the right of the public to use the roadway, and in some quarters thero is an increasing tendency to blame theo motorist when anything happens, although no one wisles to uphold the reckless driver. The question of accidents in which motorcars are involved was raised in the Houso of Commons at the end of last week by Sir Walter Preston. He nsked the Prime Minister whether, in view of the larse und incroasing number of cascs where foot passengers. wero knocked down by motorcars, and the motorcar driver does not stop and render aid, he would intro. duce legislntion, inflicting henvy penaltios on any driver who, after injuring a person, endeavoured by fight to escapo detection and relpousibility.
Mr. Bridgeman, the Wome Secretary, в10
said he had been asked to reply to this question. "Motorcar drivers," he said, "who causo bodily harm by furious driving or other wilful misconduct or wifful nogligence, may be punished witn imprisonment up to two years, if they ao not render themsolves linble to some more ecrious charge. Any attempt in cuape detection by flight and fuilure to assist the injured person would, no doubt, bo taken into account by the court in passing sentence. I do not think that any special penalty for those who are guilty of such conduct is called for.'

## Passing Trameara.

Mr. Ammon desired further information, and asked if the Home Secretary would consider bringing in legislation to
mako it an offence to pass standing tramcars and motorcars, as had been done in the United States. Mr. Bridgeman did net think that point arose out of tho original question.

## Doubt Expressed.

Major Sir Georgo IIamilton next intorvened and wished to know if the right hon. gentlemnn admitted that there was an increasing number of there cases, as stated in Sir Walter Preston's question? Sir Harry Drittain also asked how many cases there had boen doring the Inst 12 months. To both of these supplementary questions the Home Secretary said he would require notice before ho could reply.
The matter dropped upon Sis Harry Brittain asking: Is the question true?



## HEATH PLUGS ARE TOTALLY DIFFERENT

Heath Plugs are the outcome of the Inventor's twenty years' experience. Absolutely protect:d from oil, soot a.d heat Impossible to fracture. Contiouous unfaling service is absolutely assured, even under con. ditiona where ordinary plugs fail.

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If a Heath Plug oils-up we (or your garage) will return your money without question or quibble. The fact is youcan't oil upa Heath.
Heath Plugs are fully guaranteed, and we claim are the only plugs that have kept pace with the progress of engine design. Where other plugs have remained the same. I-leath Plugs have improved from year to year. Try one in-day.

HAVE YOU SEEN THE "PETROGRAPH?" It shows you the exact contents in your tank on the das! without stopping the car. Costs only 70/- and saves infinite worry and inconvenience. Write for details.

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|  | MOVEMENT |

## SPICE OF NOVELTY. <br> Some of the Latest Inventions and Novelties.

## Of Interest to Rover Owners.

The corvect lubrication of an engine being of vital importance, sumu: form of circulation indicator on the dash remnves muc! of the anxiety which is felt regarding the wil flow. The Rover Eight is not fitted with such a dhvice, and the Viking oil pressure gange, which is madn" ""pecially for Rovers, should, therefore, commemel itsulf to all owners of this popular car.

The Viking oil pressure gauge for use in conjunction with the pump and drip feed lubrication syatem adop. tedonthe Rover Eight.
$\$$


The hand on the fatuge fells at a glance whether one or both drip feeds have coased to function, and serves gencrally 20 indicate the state of the lubricating system. The gange complete sells for 17 s . $6 \mathrm{~d} ., \mathrm{is}$. extra being charged for packing and postage. It can be fitted hy any ownerdriver. The sole distributors are Sshton, 'Tilylor ansd Co., 21, Roscoe Street, Liverpool.

## An Ingenious Lubricator.

The figo capillary siphonic lubricator has been introducerd to take the place of the usual form of graso cup, and it can, of course, be fitted permanently to any part of a motorcar which calls for the constant attention of at oilcan. The Ego works on the wick principle, as will be gathered from the

accompanying sectional drawing, which shows clearly the internal construction The sample submitted will automatically lubricate the part to which it is fitted for a period of 13 wecks without repienishment. A pump is used to fill the lubricator, a spring-loaded ball valve being fitted for this purpose. It is a true economy fitting, as there is no possibility of oil being wasted, duo to jolling or vibration. Mr. Horbert Gordon, of 147, Gowthorpe, Selly, Yorks., is desirous of getting into touch with anyone interested in his fitting.

## Do Not Waste Petrol.

However careful one may be when transferring the contents of the netrol can into the tark, a certain quantity of sporit is spilt if a special pourer be not used. When the filling aperture is not readily accessible, it takes a few seconds to accommodate the can to the correct angle, the spirit in the intantime heling distributed over the petrol tank. The Pioneer unnversal petrol pourer ensures that every drop of petrol in the can finds its way to the intering of the tank, and, further, it possesses the advantage of being in stantly attached or detached through the medium of a lever-operated lock. When the tank is full, the fow automatically stops-another preventive against waste. This petrol pourer, which can bo obtaincel from Fluid Pressure Pumps, Ltd., Clifion Stre•t Works, Latimer Road, London, W. 11, is made in two patcims-bent and straight-the respective prices being 9s. Gd. and 8s. 6d.

## An Instantly Detachable Ball Joint.

It is recognized that one of the most convenient. means of connecting up control levers which are to be capable of a universal movement is through a hall joint. The ordinary type take quite an appreciahle time to fit, and it is, therefore, of interest to review a type which can be fitted or detached in a fraction of a second. It is known as the B.E.N. patent smap ball joint. and the accompanying illustration shows clearly the principle on which it works. A hardened-steel retaining spring fits in a groove cut on the inside of the ball
 housing, and to conuect up the ball portion is simply sulapped into the housing, where it is securely beld hy the spring. Full particulars as to price and deliveries can be obtained from the B.E.N. Patents, Boar's Head Wharf, Brentford, Middlesex.

## Extra Passenger Comfort.

Whilst the passenger to whom one is giving a lift is not usually fastidious, there is no reason why he or she should not ride in comfort. Siaxelbys, Ltd. Gioorge Strect Works, Coventry, tradinge is Sixes. sorics, market a useful range of auxiliary seats, all of which are built up on the air-spring principle. Whilst their utility is unquestionable, the prices, too, are most reasounble. For instance, there is the Suxess auxiliary seat. complete with hack rest and mounted on a single pillar, selling at 37s. 6d.; a stall model on the same lines, but without baek rest, sells friv 25s. A rather more dignified fitting is the Saviliary, which is provided with arm and back rests. 1 l not roquired for use, it can be collapsed, when it occupies a minimum amount of sbace. Prices range from 35 s . to j 0 s .


We melcome at all times letters sent us by readers for publication in these columns, and rulite takinu Ho responsibility for the opinsions expresscd thercin, dive preference to those tcticrs which deal with subjects of deneral interest. No anonymous comminications will be acceptcat, but thi turifcr may use a nom de plume if desired. Letfers should be as brief as possible and. prelerably, typeteriflen. We reserve the right to make any altcrations or deletions which tee decm neccsisary

## INTERESTING DISCUSSION ON AVERAGE SPEED.

## Can a Car With a Maximum of $45 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. Average $36 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. on the Road?

## Averaging 36 m.p.h.

The claim to 36 miles in one hour on a Rover Eight struck me as being somewhat tall, and, like "Morganzani," I feel disinclined to accept it as a fact. Last year I took delive-y

A Tall
Claim. of a motorcyele the maximum speed of which, in full toa:ing tam, is rather over $55 \mathrm{~m} . \mathrm{p} . \mathrm{h}$, and after the running -ia period I gave it a test round a 10 -milo circuit, wi,ich included about four miles of "all-out" road Naturally, soveral slows were necessary, duo to a patch of road under repair, a policeman, some farm carts, and one small village, but otherwise the machine was doing its utmost. The resulting average was betwoen $37 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. and $58 \mathrm{~m} . \mathrm{p} . \mathrm{h} .$, which goes to show that 36 miles in one hour would require a considerably highe: maximum than 45 , on the road-of coure assuming that some consideration is shown to other road users and the maddest risks are not taken.
May I add how much I look forward to The Light Car and Cyclecur every Eriday, although, as yet, not a car owner.

Two-whezler.

## By No Means Unreasonable.

I think "Morganzani's" remarks concerning the 36 miles er, vered in one hour by "G.H.D." just a littlo d-astic. In the open country it is quite possible, under favourable conditions, to average about 80 per cent. of

## Good Averages

 on a Joweti. the car's maximum speed, if that maximum speed is not anduly bigh, as in the caso under discussion. There is a well-defined maximum averago speed which applies to any car, whatever its capacity on, say, Brooklands, and this appears to the writer to bo about $40 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. on English roads.The writer has done the run between London and Bradfcrd on many different makes of car and motorcycla, his fastest time being, curiously enough, on a $7 \mathrm{~h} . \mathrm{p}$. two-cylinder cas, on October 30 th last. the average speed for 224 miles, fer speedometer, being $33.52 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. I drove in complete comfort with the hood and side curtains up the whole journey. Rain was encountered in about six districts and tho roads were nowhere too dry.

Now, the maximum speed of this car is just about $45 \mathrm{~m} . \mathrm{p} . \mathrm{h} .$, and it is only reasonable to suppose that in at least one hour of the $6 \frac{1}{2} I$ did 36 miles.

I stopped 2 mins. at Doncaster ( 33 miles, 69 mins.) for tobacco, 74 mins. at Biggleswade for dinner, and had to pull up on a number of occasione to inquire the way when I was diverted from the North Road at three places.
In one caso the detour is wide, taking in Oundle and Thrapston; hence the 2.24 miles instead of 204 to Piccadilly Circus, as previously checked on a number of runs on the same car.
Tho last two honrs, approximately, wo-0 covered in the dark, as I reached Shasy and Kilburn'a, in Wardour Strect, at 8.35 p.m., after dropping bags at tho hotel. Times: Bradford (depart), 12.35 ; L'iccadilly (arrive), 8.30 p.m.

B44

Again, on four different journeys south, I have reacherl Grantham ( 91 miles) in five mimutes mader thre homes (twiec), eight minutes under (once), and seven minutes under (once) Bradford to Doncaster is bad, and a very high awerago cannot be put up, but " what you lose on the swings-

1 have, of course, come across the man whon sweas he cal do 200 miles in fivo hours before breakesast, and him I relegato to the same category as a certian lypo of angler or golfer and lately there lins arisen a new Ananias in the wireless fan who got America on ono valve- last week!

Novertheless, it is refreshing ic find "Morganzani" so modest of his capabilities (the writer does not suffer from tho same excellent malady), and I think that I am safo in saying that if my car can and will do 36 miles in the hour mador favourable conditions his Morgan will. Shall we try fogether,

Morganzani "?
Bradford.
55 Maximum : 28 Average.
I thoronghly agree with the remarks expressed by "Morganzani" in his letter regarding " (i.II D.'s" average speed. It is a well-known fact that the Morgan and G.N. are two of the fastest cars in their ciass. My 1922 (i.N. can dos $55 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. , but it takes mo all my time to get from Banbury to Northampton, a distance of 28 miles, in the hour. Mugi.ie.

## Where It Was Accomplished.

In reply to the letter signed "Morganzani" in The Light Car and Cyclecar, tho run of 36 miles which I claim to have covered in ono hour on my Rnver Eight was made over a fast stretch of tho Biiminglam and Conditions Most Bristol road, and I had to pass through Favourable. only two towns of any size. The day was Sunday; the time early in tho morning, when there was hardly any traffic about. The time was checked not only by tho dashbuard clock, but also by tho watches of both the driver and passenger, to make su:o no mistake had besn made.

In ennclusion, I can only sny that I have no reason for making a statement which is untruo, as, unfortunately, I havo no financial interest in tho company who produce such an eveellent littlo car as tho Rover Eight.
G.F.D.

* White wo do not doubt the truth of the above montioned * performanco, wo would state that, in our opinion, it is exceptional, and owness of similar cars must not be dis appointed if their avemge is much lowor than this. Tho all-important factor is the type and stato of the road. Few drivers consistently average moro than 30 m .p.h. on any type of car. The experience of "H.G.M.," whoso letter appears on this page. goes to show that tho claim of "G.H.D." is not so unreasonable as our other correspondents suggest. The question of maximom and average speeds is an interesting one, but at the same time the average speed of any car, irrespective of its maximum speed, is governed solely by the conditions obtaining.-ED.




## The Latest and Greatest.

 Colmore Cup Trial Resullt Messrs. MEBES \& MEBES (Est. 1893), the Original Light Car Specialists, Sole Distributors for RHOIE CARS South and West of Enuland, have pleasure in announcing that the RHODE Ciars entered in the above event were successful in securing the
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 All Models on Viewin our Showrooms.
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OUR READIRS' OPLYLONS (contr.).

## Driving Fatiguc.

I was oxcucdingly pheased on reading the article on the effects of drising Iitlgue in your issuo dated March 2 nd, par tictalarly because jwur contributor's experience is identicai with my own. I once onened my heart to
Nightmares att the Whocel. inentione mentioned sumething about more :vater. On a recent all-night run from thu North I found myseli contimally rumang into nucks of sheen, which, of course, dicl nol exist. On ono occasion I noted a farge building with a magniticent stomo pillar approach, and the curious thing was hial 1 could sce the servants outside the gates. At liat moment there was not a habitation or human being probably within miles. In my particular case these visitations inte nine in evidence as the first streak of light "pliears in tha dots. Ruove.
Wimbleda

## After Ihe Bancuet.

May I erpme my apreciation of your contributor's excellent article on "Driving Fatigue "? My wife read it with great inturnst, and ventured the handsome tribute that

Writ Sarcabitic. and ingenious man armarkably clever incidents where almost identical symera were experimecal. Nutably, on one occasion when it fell to my lot to drive sume 60 miles in an extremely fatigued state after a Masouic banturet.
On that memorable run, not only wero strange monsters with hows and pilied tails manifest in the roadway, but inmumerable mallep beasts in great variety of shape and colour. swnmed all over the bonnet and dashboard. Almost complete collapse followed, and a policeman who everitually : ssisted me to my home tolls mo that I was in a most hysterical state, and soblued copiously in his arms. addressing him as "Mother dear,"' hegging him not to leave me
I mention this incident. in corroboration of the evidence of your contributor respecting the extraordinary delusions to Thich one is liable, when to an overwronght body and mind in the last stages of exhanstion, a still heavier burden is added. It is ve:"y distressing, and $I$ well remember that tho after eflects of terrible headache and general debility were almost intolerabile.
D. B.

## A Year With a Super-economy Car.

"G.L..'s" "year with a super cconomy car" learls hins to lig hiated in favour of the three-whereler. In defence of tho funr-wheeler, I mend the follewing detailm of my caprori ence:-Ir Sippember, 1921, hefure Hw

## Four Wheels

versus Three. slump in prices, 1 purchased a second-hand 1920 model Itemster for $£ 230$; it sequiral twn new covels (£8), ind nesy frent springs ( $£ 32 \mathrm{~s} .6 \mathrm{~d}$. ), which were titied-lutil cost to the just over 5300 .

I have to use this car every day all the joar round; I do not cover a big daily mileage, hut the roads are bad, and the hills steep. Úp to Saturday, March 3id, I have driven thim c:ar $11,09 \mathrm{~d}$ miles. The following are the artual running cumta Spirit (petrol then higher in price than now)-canaderable. amount yet in tank- 302 gallons, $£ 3613$. 7 d . ; oil and $\mathbf{A}$ mheu Jeum, £2́2 12s. 10s.: repairs and accessarios, £10 18s. 3d. tyres and tubes, 119 13s.
With regard to the last item,' I shall not want another toro for a very long tinc, as I have discovered that by usinn 710 mm . by 90 mm . (oversize) I get no punctures, and the pair on my driving wheels have done over 5.000 . yet the tread $i$. very little worn; as soon as I "tumbled" to this. I put the sitme tyre on my front wheels, where the tread is not worn at all, and I am certain that, if I transfer them after another thousand or, two, I shall be able to run the same tyres all this year. I do nol want to mention names, but I conld give this tyre a very good advertisement.

Regarding spilit consumption-my figures include all purchased. Over a year ago I found a great many tins did not contain two gallons: also my engine is often running while I am making business calls and shopping-careless and extravia gant. I admit. On straight runs I can always be sure of 4050 m-p.g.

I havo found this car such an excellent one to drive in every wisy, that if it were to drop to pieces to-morrow I should not regret my original outlay; but there does not appear to lue the slightest chance of such an event. Until this does happen I am. afraid I shall not be persuaded to make a change.

The engine has not yet been taken down; the car is a splen. did hill-climber-from the point of view of "vim" there ap pears to be no depreciation yet.

The tax is, of course, $£ 10$. I use an old coachhouse as garage damp and unheated-a nasty place in which to kerp anything made of metal.

## II. F. Nohus



## THE OPENING RALLY.

 The animated scene at the "Old GateHouse," Highgate, on the occasion of the
North-west London Motor Club's opening rally on Saturday, March 3rd.

## Simms Hill Rally.

With referenco to your correspondent "Muglie's" re. marks, wo certainly agree that to climb this hill with freak geure of $20-24$ to 1 is no help, to prospective buyers, who can

Echo. only obtain a standard car with standard
Acho. Gears. The Derby owned by Mr. Heaton did a gear ratio of 13.9 to 1 , and although wo did not rearh tho top unaided with this gear, wo could easily
climb the hill hy fitting a lower gear, but this wo would nlways refiain from doing, as wo do not consider it is beneficial from a selos point of viow.

Ortos and Co., Ltd.,
vour columns of prosccutions for illepil hlum ber plates on Morgans. The law is. I underatand, that every motor vehiclo with more than tio whecen
weighing more than cwt., shall If so, tho size plates. Ls his cor:ect? if so, the to per cent. of motorcyeles with sidecars. Why, therefore, should one class of three-whocler bo marked out for police
sidecar combinations aro not interfered with?

## Morganitic

- Our correipondent is quits right in that 90 per cent. of - sidecar combinations do not conform to the letter of tho daw with regard to number plates.-ED.


## OUR READELS OPLNIONS (contd.).

## Maximum Load for Morgan.

I should bo glad to hear of readers' experiences as to what weight the fanily model Morgan can carry without mudue shain. The makers will not give any figures, quito reason-
The Limit
of Safety.
ably, no doubt, for whicrens a full load with
$\begin{aligned} & \text { a. careful driver may do no damage, two- } \\ & \text { thirds of a similar load, racketed along }\end{aligned}$ anyhow, very probably wonid.
Tho conloined weight of my wife and myself and three children is 302 stone. This is a normal load, and no more, 1 take it, than is intended. Another owner told me that some times he takes five men to golf in his family Morgan, without ill effect, and ho is, of course, aware that he is asking for 1 rouble.
What I wish to know is this: Can I. on occasion, carry an extra 10 stone, making $40 \frac{1}{2}$ stone : caveful driving on pood roads (nursing it when otherwise)?
C. E. Junes.

Arncliffe, The Park, Scalby, Scarborough.

## Morgan Experiences.

I am prompted by your oxcellent (but all too sho:t) article. in your issue dated March 2nd, on the running of a Morgan to ask for more on similar lines. Being an impecunious and

## A Request <br> for More.

 slightly decrepit one-time motorcyclist, my horizon is bounded by such type of runabout, and in particular I havo been considering the 8 h.p. J.A.P.engined Standard (and incidentally the cheapest.) model, but unfortunately abl detail and gene:al information secms to apply only to the do luve or waier-cooled types, and mysown experience is linited to a second or third-hand 1919 long-wheelbaso machine, which did not give satisfaction.I should be glad if one of your readers would give me the results of experiencelof the slortastandard model, and refer particularly to whether it gives reasonable comfort, protection, brake efficiency, stability, when compared with any of the other Morgan models.
गhe Light Car and Cyclecar-the contents of which I have enjoyed for years-is the only paper which seems to give any assistance or consideration to the really poor motorist, whoso requirements are only met by a vehicle of the runabout type. Giklie.

## Petrol in Crankcase.

I, too, own a 19218 h.p. Rovo-, and have had similar experience to that recorded by "J.L.D." and Mr. A. Rowe. I do not think the Rover Co.'s explanation is correct. In my case I have carefully examined the needle

## Another Explanation

 valve and seat, and have found them in perfect condition on every occasion. I sow invariably shut off the petrol supply, even for stops of short duration, and have no trouble.It might possibly bo due to a cylinder being on the suction stroke at tho moment of stopping. Under this condition a partial vacuum would be chaited in the induction piposand combustion space, and a. llow of petrol from the tank through the carburetter might be produced, especially, as, the throttle being "closed," there would be a high velocity of air past the jet, due to the restricted passage through the throttle when closed."

## THE <br> MOTOR MANUAL

## 2/6

238 PAGES
266 ILLUSTRATIONS.

An Interesting Problem. I am afraid I canmot agece with "S.S.'s" explanation, under "Rich Misture," as to the cause of tho unusual troulile lie experienced when attempting to start his engine. In the

Another
Solution. first place, the temperature of tho pistons not be abnormally high compared With the cylinder block; at least there is no reason to suppose they were. The block would not ccol sn rapidly as to become stone-cold, leaving tho


The village of Sledmere, ncar Scarborough, Yorkshire, is noted for its magnificent monuments erected by Sir Mark Sykes. Above is shown the Waggoners Reserve War Memorial, an attractive example of monumental masonry.
piston really warm. As the pistons and cvinoler block heat up, so will they cool, otherwiso an ebgine would seme up after a dozen or so explosions. No; I think a more likelv explanittion is that after the hand brake had been applicd the gear. lever was inadvertently moved so as just to engage a pair of wheels. Tho first effort at c:anking would naturally givo tho impression that the engine was "tight." but the crankshiaft would receive just that "kick " necessary to free tho gears, when the engine would then, of course, be quite free.

Non-Shmene

## INFORMATION WANTED.

9 h.p. Belsze-Bradshau.
Could any of your veaders give mo their experience with the 9 h.p. Belsize car, fuur seater (Bradshaw model)? Any information given would be much apprecinted. Robt. H. Waudby. 6, l3eech Road.

Buarnville, Birmingham.
Austin Seven.
Cim any reader give his experiences as to the capabilities and wearing qualities of the Austin Seven? M. Downing. Hillside, Windy lIall.

Fisliguard, Pembrokeshire.

## Webb Super-Ninc.

If any of your readers are driving a Webb Super. Nino light cav their experience of same would greatly oblige. The Willows,

Fairfield, Manchester.
Reverse on A.-C. Sociable.
Would any owner of an A.-C. Sociable, fitted with a reverso gear, give particulars of this fitting, as I wish to put one on my car
H. Jickson.

20, Victoria Street, Maidstono.

## EVEKYT/I/NG for the CAR

THERE are several distinct and positive advantages in buying from Dunhills. One is in SERVIGE. We serve youlas well by post as if you actually called at our Showroom. IL Another is RANGEOF Cholde. Where else can you find so wide a selection of Motoring Accessories and Equipment? Aglance through our Catalogue " $A$ " is full of interes

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WEESTER MACNET LIGHTS. so that tamp clings to ans irou after-dark repaits and adjustment. Supplied coinplewe with
12 it. itex. Price $15 /-$ each.


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Tho quabtev of the noto is of the Poost Horn type, and is original, arrestlus and dominating, Made under tho suppirvision of the inventora of one of the frst and most popular onbrace su the adisn tases without delects found in tuang existing
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manutacture
British manufacture.
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CALIRUB WASHERS Rubber-spolinge hore. buil on same priticiple an at fosis. water firouyh sponge, Grit scratching. Pric, 10:6 BIJET WASHERS. nitense tel h fla or hard, 6-cach. Io:tage 6 d Prico CLEANING CLOTH. II ole, and rolls. Beautilully mg. Pricu $\mathbf{1 0 \%}$ for polish Cariago $1: 6$ est

## Jeavons Spring Gaiters.

## Fit any make of cur, and fit like a glore 

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Cleaning Materials of all kinds. sponges.
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roughly flexlble hide rougbly flexlble hide.
Substantial fibre founda. tion. Black only. and postage 1/- astra.


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## VACUUM FLASKS

The Aladin Jar takes solns aswall diquids. Thal for motorlng. Taku vith sou the food you like best, hut or oold, ad cat when ausi whera you


GLASGOW Brunch



## Cornering Care

Every careful Motorist when cornering always slows down to a speed consistent with safety-even if it necessitates changing gear-and keeps near as possible to the left-hand kerb.

Few would risk the Janger shown in the diagram where, rather than slow down, the Motorist will have difficulty in avoiding a collision, will certainly strain his tyres and, if the road surface be greasy, almost inevitably skid.
Is it worth the risk?
look for No. 8 of the Series.
Correspondence on these interesting subjects is invited.

ANCLO-AMERICAN OIL CO, LTR 36. QUEEN ANNE'S CATE, LONDON. S.W.I.

## AROUND

 :: THE TRADE.The Dunlop Rubber Co., Lta., are adopting a new advertising slogan, which reads: "Fit Dunlop-and be Satished.

Those who aro interested in car insuranco should write to the Lwerpool and London and Globe Insurance Co., Lidd, 1, Cornhilt, London, E.C. 3, for a copy of their new brochure.

The G.N. which put up such $a$ good performance at the Simms llill-climb in the hands of 11. F. Blackborow was shod on the rear whecls with 700 mm . by 80 mm . Ginodyear all-weather tread cord tyres. Blackborow attributes has success patity to this fact.
W. J. Bithell, Lid., 29.30, Charing Cross, Jonndon, S. IV have been appointed solo agents for London and district for the Westland Foundry, Yeovil, who specialize in the produce tinn of high-class castings. The Westland foundries cove approximately soven acres, and they supply many of the leading motor vehicle builders with castings.


Mr A. J. Tibbittmanaging director of the National Benzole Co., Lid.

Mr. A. J. 'libbite, who has acted in the capacity of fencral manager (1) the National Benzole Co.. J.td since its inangoration, In: tion of managing directos:

Mr. Marry Smith has relinquished his position as managing directo: of tho Rover Co., Led., as he deaires to bo relieved of somu responsibility. Mr. Gmith will still remain an ordinary director of the compans. Mr. J. K. Starley hoing appointed to the minnging' drectorship.

Vithin the last few weeks Autogears, of Hyde Park Toad, leeds, have disposed of the entire business of the manufacture of the Autogens. three-whecler. All future communications regarding thas vohicle should be made to Messre. Mclysaght and Donglas, Dublin, who aro the purchase:s.

So as to bo in a position to speed up delivery of repaired parts and, further, to give increased scope for tho handling of a greater volumo of work, lbarimar, Ltd., have moved into larger and more commodions London premises at 14-18, Lamb's Conduit Street, Theobald's Road, London, W.C. 1.

A bulletin of interest to J.A.l. engine owners is published at irregular intervals by $J . \Lambda$. Prestwich and Co., Lid., Northumberland Park, Tottonham, N. 17. It is intended to place information concerning J.A.P. engines beforo owners and prospectivo owners of these productions. Any render applying to the above addrass will be forwarded a copy.

Mr. Clayton-Wright, of Desmo, Ltd., is arranging in tour throughout the country to visit tho leading agents in cone junction with thoir representatives to show tho latest rango of Desmo necessories. Having recently purchased an 11 h.p. Riley for his business journoy, Mr. Clayton- Wright will lie Heasod to show and demonstrato this machino to any traders Interosted if they will communicate with him at Desmo Honse, $264 \cdot 5$, Broad Sireet, Birmingham.

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 trom elso. Can be purchased on the deferred paymenta. Cars a akell

 Rd. Thone, Musedm 7736 , Mom onetenth dowis

 A.B.C.. into 1921, Surbiton madel, dynmmo, spedonctis, donble sunken

 A.B.C., 1922, spectal hood, acrectl, side winga, numeroms extram fat
 A.b.C. 1925 ports model, flled with extra lave secorine whet, spat




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 29 Allsop St. Upper Baker St. N. W. (opponite Baker St. Sfation).
 ADLER, 1914 model. 2.sester, In excellent condition throughour, £85: AMILCAR. 1923, new French, 8hp, 2-seater, complete iquipment, has

 AMILCAR, 145 guineas, list price e 235 . brand new, 2-reater, fnll
 A.V. monocar, 1922. with dickey ecat. 8hp J.A.P., fully equipped, ex-

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BABY PEUGEOT:- 2-sester, ${ }^{3}$ rpecds and reverne, fulls equippedi, $£ 55$. HABYPEUGEOT, 65 gulneas: exchanges; do luxa 2 -acater. 7 hn .4 cgisn

BABY PEUGEOT, nmartese ono in Fingland. 4 -crlinder, 3 -epoed, body vork and tros as new. Sterney whecl. nid tyid, black hood, windacrecry,


lieaders are referred also to "THE MOTOR" (Tuecdays, 4d.), which contams each week many hundreds of advertisements of hesu and second-hand cars of all kinds.

## SECOND-HAND <br> LIGHT CARS AND CYCLECARS FOR SALE (conlinued).

 BLACK RBINCE, Une 1922 2-ncalor, Heardmore 2 -at roke onglne, belt
 BLERIOT WHIPPET, 192.3. haftidriven moulel 3-acater demonstration




日LERIUT-WHIPPET, dileveril Fiblunty, 1922 , electric lighting, emerg-
 BLERIOY-WHIPPET, 2921, ipecial Sporta bods, reverse, dynamo, eler Porth IRd., liorkenham. Sheriomtete, periect coadition, 68 guineas. 537 -d620 BLERIOT. WHIPPET, 1921, hamdle siartor, revenco gear, electric light-

 BLERIOT-WHIPPET, 1920 , uverhauled February, repainced, reaptolcered, new huou, elertric lichling innd spot lisht, seal atarter, extra-air
control, metrol can and carrier. Klason and bulb horns detarhable wheele,
 BLERIOT-WHIPPET, 2921. Bhp, overhauled, splendid condition, electrio pares, c 70 or oller. Claphnam, 66 Wemblon Rd., Bridgwater, Somorset GLERIOT WHIPPET 1921 cicotrlo ancedometer e55: ezsh ar de

 sour convrinienco. Trial runs. Scheanc is uniquo; it is arranged wo suit Warwick Wisht, Led, (Solo Nistributors in tho London Area), S.T.D
llouse, 150 Now Bond St., London, W.1. Telophone, Mayiaif 6504 B.S.A., 10 hp , ae now. $£ 10$ worth aconsmorles over and abore blandard equapruent, selfstarter, tax fully paid, R245. 13axter. The Blenheina,
liurgoes lill, Snsecx. BUCKINGHAM, 1922 model, 2 -seater, dynamo lighaling, real good condi
tinn tirnugligt, e85: excliango or hirenurchase. Tho Light Car Co
331 Eust BUCKINGHAM, 1922, cloverleal, उ-seater, absolutely new. liat C185 onr price \&120: cash or delerred; exchanges. Raileon, Cobhamand
Cu., 21 lulacklrinins St. Manchester.
$537-928$ BUCATTI, 1921, 16-valvo, aporting 2 -scater, dynamo, defachable mbeels,
 CALCOTTS
Warted. Exchango your old Colentt for now Bhn Tulbot. Liberal allonancos. Our hire purchase ssivmo is unique. it is arranged to Warwick Wrighe, Led. Trial runs, (Sole Uistributora in the Iendon arcal, S.T.D. Honse, 150 Now Bond Sl., Jondon. W. Wh The inhano, Magialr 6504. CALCOTY, 1922, 10 hp , 2-seater, dlekey, na new, mileago 1,300, 2215 CAR
CALTHOIRPE, snecial, fase. recently overhanted hy makers aluminium meats indickey, hood, screcn lamps aldo curaing tools, largain, \&2zo. Buyers Aeonts. 170 Piccadily. firecnt 5448.
CALTHORPE coupn, 1923 mar, dono few demonatratlona and practically Illblemnhed, barmain, $£ 385$. Smith and IIunter, 77 Gt. Portland St..
$537-819$ CALTHORPE, $10 h p, 2$-sentor, dickey, dynamo Ighting. dintachato
 GALTHORPE, 1922. Do Luxc, as new 2-senter, double dickey, starter


## SECOND-HAND <br> LIGHT CARS AND CYCLECARS FOR SALE (confinued).

CALTHORPE, 99 guinea. axchangra, deferred pasments: 1914.15,
 CALTHOAPE, 1921 , 2-sealer, dynamn and tarter, iu really excellena

 Mrishic, Hanmmeramith 1325.
H.1. W.
537-96 CALTHORPE, 1915, 2-sealer, clectric, \&80: 1919 aporle 4-enter, at
 CAKDEN, 1921, 2-scater, accesories, not done 900 miles, privakly
 CARDEN cyclecar, 1921 , 2-inater, mood, arren, eluctrio lighting, acCualdenhend. CARDEN, 37 guineas: exchange: or defertcd paymeuta: 1921 Carden Ilanater hid., Fiat Indwleh. Sydenham 24E2. CARDEN, late 1921 , perfoct, clectric light, fisy giartor, Lial rungiven, CARDEN, 1921 model, almost aEE condision price e55 5.37-d628 hirc-parchase. The Light C'ar Co., 331 Enston prica 255 , exchange oudon, N CARDEN, 1921, dynamo, do laxe moxlel, 255 ceph or defrered; ex ARDEN CARDEN Official Repair Depot
Wo bave takon orer the whole of the repaira and saie of wara paria from the Carden Engineering Co. Many krrat impraremontat to Carien
 cuarda, hond covera. Send for full particulara to the New Carifen Liahe
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2297 .
CARDENS (5), 1920-21, beautiful 2-seaters, $7 \mathrm{hp}, \mathrm{twin}$. lizhting set hood. ecrect, everythiog titled. from, 39 Ruinean io 59 guineas: motor
 CASTLE THREE, 1921 mndel. 5rat used September, 1922, $\begin{gathered}\text { sax naid, } \\ 537 \text { fisfect, must }\end{gathered}$ CHARRON, 1921; cloverleal 3-smter, Shp, apare wheel, dynamo light
 CHARRONETTE, 8-10hp. Tery nice 2-eater, delachable sheelv, dynaind
 CHARRONETTE, Cass's Motor Mart, Ltd. 192189 hp . Mathis chasala
 CITROEN, coupo, 10.4 hp , order as govd as new. a moat completerar, price 2275 . Westminster Bridge G. and E. Co., 202 Wistmir.stur
Bridga Rd. Mop 6187 . CITROEN, 1922 itate). 4scater, superb condition, with rear ecreen and estras, ع215: deferred pasments accepted. Sautionand llunter, 77 (it. CITROEN, 10hp, 4-seater, siarter. lighthg, new tymetay paid.exectlCLULEY 1921-2 2-seater, Lucas starter, lighting, doubie dickey. excellens
 COVENTRY-PREMIER, 1922, spedometer, double dickoy cord iYTEA
 COVENTRY-PREMIER. FG.C.II. havo COPentri-Premier 3-wheeler, dy-
 Tabct.
COVENTRY-PREMIER, 1921 , 4 -whecler, dynamo livhtirgin nem enndi-
 COVENTRY-PREMIER, 1922, only Showroom-miled, E 175 venly or

 COVENTRY.PREMIER. Lato 1922, A-wbel. dynamo IIghting. eparo
 COVENTRY-PREMIER, 1922 (E®Dt.). drnamo, maro wheel. double
 COVENTRY-PREMIER, 1920 model shep soiled only. dyusmo lighting.

 COVENTRY-PREMIER, 1922 . Bhp, 4-wherler, denble dickes, unsmiled condition,
surance

 CROUCH, F.O.O.II. 1380 a 1921 Cronch, completely overhanicd, iavzain CROUCH, 1923 , 818 hp . 2-senter, double dickey, alde curtains. Itugat bive, Tho soiled arly. to clear, 406 . 195. CROUCH 1922 moded de fuxe 2-seater with double dlekey scat draima cbange or hirepurchare. Tha Lighe Car Cc., 331 Liustoa Rd., N.W. 537.40
 Civerabsm, Reading.

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 Chister.








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 Tic 1 C.Ni, 1920. de live model. dynamo lighting, spre, wocl. new yithcilin condition. s100. Gibbs, Fancell st.. York. S37.568






















 from' oncteuit donn: liblow.




 c.N. 1929 2zeater, in excellint condidion. 5125.1921 itito 585 :



 Telephone, Hampscoad $3287 . \quad 537$-d660


 Eas Dulwich Sydenhain 2452 . 537-55 C.N., 1922 , brand now. slightly shop soiled, pecdometer, overnize tyres,
dickes, 147 gniness. Belos. G.N., 1922 dyuamo lighting, pnerioncter, sparo nheel, licensed, exceptional condition. 125 guineas. Líluw.
C.N. 1922, all-weather couno model, with dickey, dynamo Hishting, cuizeas; oxchanges or deferred. Eiwards, $175-7$ Gt. Portland St. wh ${ }^{145}$

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 fion). Pluone, Langham 2935., c..N. Casis, Mootr Mart, 1.tidion, 1921, 10hr, dynamo lighting, tax paid

 C. N. 1921 mellel, puuchasecd October. 1920, $\ell$ JTed excellent condilion





 Anw, exchnoge.








 c. w.K. Astater 1920 , dynamo. repaintect over hnuled now hool. c12n;




 Coudhtion anit order. batinct only been ured tor demonatualion: 1 gro

 HAMPTON, $\mathrm{c}_{1} 195,1921$, 2 seater, doublo dickes. Gtarter, lighting. Birniinglum.


 HILLMAN 1921 model pports 2 sacter, dgnmmo lighuln



 HUMBERETTE spare Parte Dept. Repalte, replacementa, oserluaula, renainting. Inquirice Invited for occond-land cars.
HUMBERETTE, Number Bersice Depol Canterbury Rd, Kilburn, London.: Phone. Willesden 1298-1299. Telcerrama. "Humberonia'
 HUMBEAETTE, 1914.15, 2eearact, 8.10br water-cooled engioo fulls


 HUMBERETTE 1914 model 2 -acater, real good order througholt, © 45 :









## SECOND－HANI） <br> LIGHT CARS AND CYCLECARS FOR SALE （continued）．

 KEVAH，1922， 2 －haler， 7 －8hp，V wis， $637-88$ i

 lagondas．


索



 MARSEAL 1922 101，p 2 ．sater，Uickey， 111 －Aluminium bods． 6

 MARSEAL ighi， 1






 METEORITE， 155 guln nas，exchanges，excentionalls smatt 1919．20．



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in in dime inty wito
otock． Mongan．Dan Guy Wesmouth．main norset agent．Trade sup siliod

 Cloveland tim riso，Ackworih，Poneotract．

 Na，



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 MORCAN， 1921 G．1＇，M．A．G．，wator－cooled，Lacas dynamo lughting


MORGAN de luxe，w．e． 1921 electrio lighting，sperioweter，clock，
Binks，foothonrus，fited ipecial counc blact leatheretio hood，
 MOREAN，SO6 Uxbridgo Vオ．，W． 5 537－d̄72 MORCAN， 1920 Grand lrix，w．e．J．A．P．engine，grand cevcition，Just





## SECOND－HAVD LIGHT CARS AND CYCLECARS FOR SALE ＇sontinued）．



 MORGAN，Grarid Prix．J．A．J．witer－coclerl，lampa，recoutly overhiuled
 MORCAN．1919，Cirand Prix．J．A．${ }^{2}$ ．water－cxolod，hond，windereen， MORCAN，1922．Grand Prix．M I G，spordimeter，diter，e1 SO．iax paid IBrlow
MORGAN，19．？1．de luxe
PAOACAN，1920，de luxe，I I P，witer－rorded，hnorl，windscreen，Rotax
 PAORGAN，late 1921，Crand Prix，Jacas dynamno cliceric horn．Ibnlt．
 MORGAN，192I．G．P．，M．A．G Lucas dymamo limhize．brad asit wite
 3564 Westers．
MORGAN 1921 de luxe，water－cooled，enori－M．． 1 （；dunamn lighting

 MORGAN 1920 do luxe，Water－cuoled J A P riynamo lightina invert



 MORCAN，1919，a－c．，recently repainted，accearorica，excellent condi－

 MORCAN，10hp MA G．， 1919 de luxe．jnat orerbauled．fully equipperd． s 100 or mear oller．Smith and Willis，B．lolngstoke． 537 dos NORCAN，Grani Jrax，J．A．P．，1920，in Dew condition，standard equas． ment and extrua，auperb bus，hisheat caah otter or exchange with a
MORCAN，Grand Prix， 1918 J．A．P．recently orcrhauled and repaintud． culza rusaing hoards，apare tyre cariser，clectrio ishisio．sncedomeles，
 MORGAN，1920，air－cooled，equixired．$£ 75.6$ Raskell Ave．near Strcacham ILill Sration． 537 － 161 r MORGAN，1915．Grand Prix，J．A．P．water－cooled，redited with 19ter parts，dynamo limbting and naramin，new Capac carburctice，alumimuan lyres and tubes，I new，baryain tirst ofter over £ 50 ．M．， 19 l3arnas Cuart Ri．，W゙est Kelasington．5ड8－916 MOACAN，1915．G．${ }^{\prime}$ ．，w．c．J．J I P．，completely orerhauled，masy now park，lalls guaranteed，$E 80$ ，fully equipped．Below．
MORGAN，Epecial G．P．，fithed＂ 200 mile body，apecial cyclera， 10－12hp．o．h．r．JA P．，exceptionally tashtnew tyrea， 2135 ；bia is as exceptional machine，andasflorde an exceltent apporsunity to anyolle desirous of acquirigg a really hot－oluli Morgan at a lon figure llelnw
MORGAN，1922，Grand Prix．w．e．M．A．G．，Inlly equipped anil lax padil． omgnal tyres，unacratched．perlect conditicn，mileage 2.000 only，glam－ MORCAN．1917，sporting model．10hp．a．－c．M．A．C：．fully equipucil． now being overhauled in our works．fully kuarantred．E75．INmara，
 MORGAN，G．P．1914．nnt usat gince beine limooufly wrerhauled．


 MORGAN，1921，family noalel w．e．Lucas dynamo M．A．a aperdo－ unctar，tas pald，mileage 3.000 ，midition as new． 110 guilieaw：ex changos．Allber Garage，Thonisett Jid．Earlsfielu．London．Phupe．
Litehmere 4388.925
 MORRIS－OXFORD，dynamo lighting， 5 wheelg，new tyres new hocrl．re upholatered，reconchpainted，aound， 100 nuincas． 43 Turulanin Greell 537.998 NEW HUDSON， 1922 only showioom soiled，$£ 175$ alu or $\& 4315$ ．
 （ireen，N．22：now medises opposite Ilou St．Statmin 116.000 en fil


 PHCENIX 1914 11.9 hn s－seater． 6 detmchat
PREMIER，1922，4－wherler，dickes，dinatoc．excoliene canfii ion，\＆130

 RHODE，9．5hp．4－seater，Augnet，1922，done 3,800 roilea，side cur


## SECOND-HAND <br> LIGHT CARS <br> AND CYCLECARS FOR SALE <br> (continued).

RHODE all-weather Ealoon, $2 \boldsymbol{y} 2$, royal blue, dynano lighting and self siarter, 5 inmps, speaimeter, cluck, dash lamp, tool locker on running
board, grease-gur system, aluminium numbers. tax naid, ons done 300


8 hp 2 -snater with dickey thorgughly

FICHARDSON, 8 hp, 2-senter, clectric light, specds, Dunlop tyres, hoot kerenit pplendid order, $\mathbf{~} 60$. Beattio, 14 Abington Park Crescent RICHARDSON 8hp 2-seater, eloctric light, specds, Magnum tyres, hood Wertminster Bridge Ril. Hop 6187. RICMARDSON lighe cars. Spare parts in stock. Richardson's. Mill-
thorpe, near Shemelif. FILEY, 1922 model, 4 -scaler, complete with self-starter, dynamo jight excellent coudition nice stecring rery tiexible and casy in trame, in uip
 RILEY service depot. Guaranteed 1922 sccond-hand models from 542525
Lewas Motort Works, lewas. RILEY, 1922, nll-wwather, 4-spater, starting, lighting. £3J0, 244
Old Christchurch lRi.. Bonrucmouth. ROVER 8, 1922. makers specification, mileage under 1.500, as new in every respert. 1340 motnrcycle in part exchnnge and deferred payment
over 18 monihs. Allen-Bennett Notor Co., I.td., 9, 10. 11 Rosal Parade

ROVER 8. 1921, e100, rers fine condition. On view, 97 Curtain Fill. ROVER Bhp do Iure. 1922 . speciometer and clock, 8145 . Ratelific Bros
200 Gt. Portland St., W. ROVER 8, 1 g2l, speciometer, ahsolutely sound. 2100 Smith and IIun-
ter, 77 Gt. Portinnd $S_{t}, W$. Phone, Langham 2365 . $537-820$ ROVER 8s, choice of $\mathbf{S}_{1} 1921$ and 1922. prices from 8100 extended
terms from onetenth down. Jiey (Rover Agent), 378.384 Euston Rd. Phone. Nuscum $775 \overline{6}$. 507-80 ROVER, 8hp, 1921, God condition threughout, R.O. conpo fitment, spoedometer, clock, small Klasion. 3 new tyres, dynamo likhting, low
milenge, licensed for jear, £130. Paiki, Lidgley Park Rd, Sutton
$5.37-19$ ROVER 8, 1922, beau!ifnl condition, £120. 24 Balliol Rd.. Norlh ROVER, $8 \mathrm{hp}, 1921$ modicl, 2 smiter, excellent condition, £95; ex ROVER, Bhn. branu uew 1922 molel 2 -scater, 5165 : cxchange or hire-
purchase. J'he Jight Car Co. 331 Euston Rd., N. W. 1 . ROVER, Bhy, 1922 fully enuipped, sulendid condition, \& 135 offer.
112 Stroud Green Pd., Finohury Park. 4662 HOVER. 84p, May, 1922 , side curtaina, mirror speciometer, impulso $\frac{1}{5} 200$ ans trinl. \&135. Jall. 95 Nnpicr Rd. Glllireham, Kent Phone, Gillingbin $\mathbf{4 5} \quad 539-1661$ RQVER. Lorgest stock in Lordon. from, 90 puineas. cash or deferred.
Lelances Stret Garage, Cander Town, N, W. 1.
 ROVER, 1921, in excellent condition, repainted. c115. Elre. Led., 13 16 Bishopsgate Arenue, Camomile Sit, E.C. 'Phonc. Avenue 5548. 557.962
ROVER 8, 1923. 4 soter, licensed, absolutely as new. 165 nns. Beliw ROVER 8, 1923,2 -spater, standard specifeation, indiptinguishable from Gt. Portland St., W. 1 . ROVER, 8hp, Iurulased new May, 1922 every peasible acresiory. InCluding dickey keat, unsoiled condition, guaranteed perlect, £150. 530 ROVER 8. 1921, conach painted. many extras. fil5; cash nr deferred; exchanges. IRailton, Cobham and Co., 21 Blackiriars St., Manchester SALM80N, 9.5. new Febrnary. 1923. Model do Luxe. Enclish-buitt ais. French type suspension, whocibase 8 it. 6 ins., speriai enkine alu minkum pistons, fitted with Rinault speednmover and taycd (fi0) for SAEM8ON 1922 do luxe, excellent condition. \&152. 7 Exhibition Rd. SALMBDN 1922 da lure, sido curtains, acli-sfarter, specdometer, perSALMEON 1922 (at
SALMEON, 1922, latest all-weatherhdo Iuxe, specdometer, tyres un marked. as now thronghout, tsxed 1923, \&175. K.J. Motors, Bromley.
'Thone 1727 . SAXON, 2-sestor, 4-cylinder, water-cooled, electriu and oil Ushting, accessories; would conajiler motorcycle SAXON, $10 \mathrm{hp}, 4$-cylinder. 2 -specd and reveric, in good order, 238 10s. Jilco Lud. $13-16$ Bishopsgato Arenve, Camomile Si. E. E.C. SCOTT Sociable, $1922-1923$ baught Novembor, milenge 1.500 miles,
1923 improvemonta, new condition, tyres nomeratched, still under guaranteo, buying cor, any trisl, 2140 . Ifector, Finningles, Doneaster. EHORT-A8HEY, 1922 , ghp, 4-cyllnder water-cooled, 2 -seater and dickey,
Inction drive, hood and screen. Lucas dynamolightig, spare mheel. Thls inction drive, hood and acreen. Lucan dynamo lightlag, apare wheel. This Ith minminium bonnet, An ideal no-trouble car. Trial rin can be
arraged in London. What oflera? Major, 18 Ruacll Gdns., Golder'a GILVER HAWK, 1921. IOhp, full electrical equipment 2 -seater and dickey, 126 guinens. Short and Glace, Itd. 362 Upper Richenond Rd. sINGER. 1919 2-senter, dickey, dgnamo llabting. self-starter, overorer 18 monthi. Allen-Bunnett Motor Con. itd., 9, 10,11 Royal Parade,
Weat Crostuz. Phone, Crosdon, $2450-2451$.

## SECOND-HAND <br> LIGHT CARS AND CYCLECARS FOR SALE (continued).

 Gioncester SL. Oxtord. deliverel March, 1921, counc, IIghting and start
 SINGER, 1914. 10hp, 2-seater and dickey, detachnblo wheels, sido eurarranged. llamilion. 69 Ferria Rd., East Dulwich. Dhong New SINGER 10 hip 1913 2-senter, clectric side ant tail, acetylenc headlames
 SINGER, 1921 and 1920 , 2sentera, alarter, lighting, full rquipment
 SINGER, 1922 , 2-seater, brand now, full equipment, 12 minnthic irre

 SINGER. FO.C.II. have 2 Singers, 1919 nnd 1920 both dynamo
 SINGER, 1920, 10hp 2-scatcr and dickev, detnchablo whert, olectric
 SINGER. 1Ohp. Mebes and Mebes (Eatablished 1895 ). The Origisan

 tit. W. 1. Phone. Langham 2230 .
SINGER. 1919, dynamo, hlarter, watch, specdometer, milengo 4,000 privately, ownel, mechanically and appearanco nerfect, \&1111 57 Luma

 SINGER, 1922 10hl, 2-seaher. nll-wezther coupce dynamo lixhting
 SINGER $\quad$-soter, dynamn, dickey, nickel fillings, enx paid, really emord St. Sintiou). Phone, Jangham 2953 . SIMGER. Gerssis Motor Mart. Itd. 1921 coupe, startor, dynamin rmn
 SINGER, 1917, drnnme, perfect, $\mathcal{L} 100$, ensh or deferred; exchange Kailton, Cobham and Cu', Ltd., 21 Blackirlars St. Manchester $537-9.55$ STANDARD, ${ }^{2}$-seairr and dickes, 1914 , 9.5 hp . lighting and starthg,
 6187.

STANDARD, 9.5 bf . 1919.20 nll-weather, 2 -senter and dicke5, electric
 spare tyres, in exceptionally good order, s2io. Gibbs, Fnwerti st.
York.
$537-569$ STANDARDS.
 allowances. Sur hirs nurehasse scheme is unique; it. iy arranaed to sult Warwick Wright. Ltd. (sole distributors in the Lendon aren) s.T.
 STANDARD, 2 -smater. dickoy, 9.5 hp , nll-westher, 1920 , lone wheclbate
 STANDARD, 1920 , nll-wenther 2 -senter, starter, liahtling, dicker. Cte,
private owner, condition ns new, $£ 210$. Vivian, 33 Spenser Si, Vir
 STANDARD, $9.5 h p, 1920$ long whellwne, all-weather 2 -seater, dymamo chase. The fight Chr Co., 331 Euston Rd., t.ondon, N.W.1. 557.34 STELLITE 10hp 2-senter, In perlect condition, $\mathbf{f 1 2 0 \text { . Smith Motors. }}$
STELLITE, 1920, dickey, dynamo, exceptionalle niec condition. \&160: extended termg from onetenth down. Rey, 378-384 Euston Md. STELLITE 1914 9.5hp 2 -seater with dickeg, in quito good conit fully equipped with lampa, horn. spectometer, cte., tox paid. 2 now tyes
 STELLITE
Mfin,
36 Parade,
Leamingion.
2ser with STELLITE, 1920. 10hp, 2-soater, atoy, greer upholatery, engine just overhauled, dynamo lighting, spemomeier, mileage 12,000 Nrst-rlass condlition, and a bargain, si35. The legent Garage, Leaminglon 5 . Sna.
Tal, 406. STELLITE 1921 4-geater. Jighting srt, pertect condition, privately owned,
no agents, prlee e2io. Jinles, 16 Bourdon St., Berkeley Sq. W. no agents, price £210. Jinles, 16 Bourdon St., Berkeley' Sq. Wíli-d644
 1694 . 537 - 6642 STELLITE, 1920, No. 1809, dlckey. dynamo. fully equipped. ounnerSTELLITE, 2 -scater dickey, 1914 model. f75. Garago, 12 Cornwall Terrace Mews, N.W. 1 (rear Baker St. Station). Phono, Lingham 2933. STELLITE. Casg'a Motor Mart, Itd. 1914, Just orerhauldi, renainted
 STELLITE, 1915, 2seater and dickey, 3 -apeed, Jacens dynamo ligliting, ${ }_{2}$ Grenvitic Mlace, South Kensington. 2946 Western.

## LIGHT CARS AND CYCLECARS FOR SALE t:ontinued)







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 WARGENLAMBERT, 1924, Awin watereoled Bloomfeld, 3 and re-






 LE ZEBRE, an snip oxeclient 2 -seater (English body) and drekey. dy-












## SPARE PARTS FOR LIGHT CARS.

CALCOTT spares and repairs. All Calcott spare yarts in stork lor intor largo. Complete overhauls. Authorizma of calcote mpardinal


 MERRALL-BNOWN spares and repairs. Nerrall-Brown, 28 Chorleg Ofid
RJ., BalLon. Morgan apares. Tho Stevenege Motor Co. Ltd., Stovenage, Iterta., caa


## SPARE PARTS FOR LIGHT CARS (continued).

RICMARDSON light (Ar syare parts ean them he oblained from Arthur
 ROVER pares. Wo carry a 23,000 atock of liover parte. Correapund ence Invibud on all malters pertaining to IRorer cars. John Pollict antl
Son fincressors to tho liorer Co., litil, Ienshaw St. Liverpool. f57. 184 SINCER, new anarce: Crovn whel, $\boldsymbol{f}$; bevel plnion, $x 2$ difigential
 Eisce:

## NEW LIGHT CARS AND CYCLECARS

 give immediate delvery of the 1923 types at further redined prlecan

 (Phone firosvenor 2191 ), have fulirequipped A.H.C. repsir, woriks, alorks of pares, and are experta in tuning: spurcs model, e225; Regeni anining tods, io apecification. Write tor gadiget lifi. Deferged paymenta A. exchanaea

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Empire 2-inalar. 2325.
Posal 2-scatcr. e395: 4-srater, $\mathcal{4} 45$
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Delerred paymenes.
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A.C. Leading Londenggents and concessionnaires Surreg. Trate en-
quiries insited. AU models ia arock at uev redaced pricen. Autovesora.
Lid. A.-C. Empire 2-seater model, all colours, sड25. Lutoreyors, Led A.-C. Royal 2 -semer all-weather models, 8395 . Autoveycra, Led. A.E. Rogal 4 -seater all-weather models, s415. Autoreyors, Ltd A.-C. Rosal conpo, any colour, ع475. Antovesors, Led
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 ALVIS. Official Agents, Mebeat and Mebes (Ese. 1893), The Orizmal can offer immodinto delirery of ahl mudels, ducluding tho London ageatian aru on vicw in their showrooma, price 2 rom
car 357 . Your prescht hight
 AMILCAR Apeciallst and distributor, North and East RlJing Xorkshire
S. Glover, Xorth St., Ripon. Phung 172 . AMILCAR, 8hp, brand new, shop suiled, 2-seater, standard speclica
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 ARIEL, the new 9hp watcr-cooled $5-4$-tceter, price e235, Is the niceas light car con the ruarke a combinaticn ul nped, reliablizy, and alegance.

ARIEL Nine, waier-cooled, 3-seater, \&235, in stock A amart roomy light car. Pleaie rall and have trial run. Ariel Moter and General
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exchanges, deferrod naynuents. Parker $246-52$ Deansgate, Manchealer:
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5per BAYLISS-THOMA8. Tho Wcatminster Bridge Co. Lid.; bavo oppmed County Istil, Wuro distribuing agents for Baylisi-Thamsina in Lonol cach model in stock.
BAYMIEsTMOMABioe station and Eorks opposite

 BAYLISS-THOMAS. All-1923 medula in steck: 10.6 hp 2-seater, whth


## NEW LIGHT CARS AND CYCLECARS

 (conlinued).BELSIZE-BRADSHAW, Shp dynano liphting. f210. specdometer 6 extra. lmmedlate delivery from the anthorized ngento. llarris Garage, BELSIZE-BRADSHAW, 9hp, f210; also supplied on our payment out of income asstem. Sead for particulars. Ratelitic Bros, 200 Gt . Portland BELSIZE-BRADSHAW, Gridon Watney and Co., I.tJ., 31 Brook St. W. 1 (Phone, Mayfair 2965 and 2960 ), the wholisile and retail conces
 pricec. Sianclard 2 seater, complete, 8210 and Sinndord 4 -soater. complete, exis arranged and cars taken in part exchange. sivell. Deterred pay BELSIZE-BRADSHAW, 9hp, oil-cooled 2-3-seater, delivery from ${ }^{\text {Cotock }}$
 w.C. 1. BELSIZE-BRADSHAW, £210. O. A. Rritten nnd Co., sole dietrihuting
 BELSIZE-BRADSHAW, 9hr, oil-cooled, 2-3-seater. Immediato delivery
 BELSIZE-BRADSHAW, with 9hp oil-enoled engine 2-3-senters, $£ 210$;
 BELSIZE-BRADSHAW. Willmot's can giso immediato deliverv of sel-aize-Bradahaw 4-seater, £235: 2-peater. £210; conpe. £260: £18 extra in part paymont or cupply on deferred terms. Trial runs-any time. any
 BELSIZE-BRADSHAW 9hp coupe, f260, 4-seater f235. 2 - - -scatar

 BELSIZE-BRADSHAW, 9hp, oil-conlecl. detachable whets. dynamo light



8.SA. Lramington Automebile Co.. L.1d., appoizted sperini agents lor B. A. cark. Display of latest modiel on ricw at our 5 hontooms. De

 guckingham, 10 Jip. The ralue for money light car Call and see the latest madel 2 -scater. with double diekey. price $\boldsymbol{\varepsilon} 185$. Dook your


Buckingham. Mebes and Mebes, (Est. 1893). The OrigInal I.lpht

 1. P. Phono Langliam 2230.
 motorescles in part exchange. Rateliffe Bros., 200 GL . Portland st. CALCOTT new 10 hp 2 -seater. dickes seat, self-startcr. etc. new 1922 Ments. Harrods Motor Sales Dept., 118 Brnmpton Rd., London, $537-768$

 CALCOTTS, 192310.5 hn modela Wrand new, fast arrived, cash or easiest of easy pasments. Your old Calcott or any motorescle or car tnken in part payment for a new Calcott. We specializo in exchn nger and allow
bet prices. Thret authorized-agems. Wilking, Simpson, opposite olsm.
 CALCOTY 192310.5 hp , fnst arived, 8325 . finished grey; also one Glisbed crimson-take: inspection invitery of thia cry mmart model cash, casy nasments or exchanges: exchanges arranged answhere distano no object. Wilkins, Simpson, opposite Olsmpia, London. 'Phone. Mam-
memraith 258 . CALCOTT, 11.9 hp . 1923 . Gtted With handsome all-weather 4 -seated holstery, frameleti windows. Lucas dynnmo lighting and cell-starter.

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 atid the Gome Countits. Cinlitharno Service Depot, ya Hirl Rd., Kilburn.
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CALTHORPE $10-15$ atandard 2 -scater, 285 guinean. In atock at Colmore CALYHORPE $10-15$ de luxo 2 -scater, 325 guineas. In stock at Colmore GALTHOAPE $10-15$ de Iuxe 4 -senter, 340 gnimeas. In stock at Colmoro CALTinoRPE $12-202$ or 4 -scater, 410 pulneas. Earls delivery from CALTHORPE cara ato alwass arailable from Colmore Depot, for cash.

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 (conlinued).CALTHORPE, 1923 modelaj carli, exchange or delerted. Jiblifax Muins CALTHORPE. Lankerter Engineerlag Co., Kingston, Surrey agents for Cahhorje cars. Nubsibenta kanted whore not alrendy resresembed int CALTHORPE. Smith and Hunter. authorized agenta, have all
 Phone. Iangham 2.563
CALTHORPE. Jirkenhead Motor Works. 54 Duka St. Calehorpe aneint.
 Agency, 4 Doranali Place, Picendilit
CITROEN. $7.5 \mathrm{hp}, 10 \mathrm{hp}, 11.4 \mathrm{hp}$.
citroen. The Ireighton Garnge.
CITROEN. Farlicst delivery of all 1923 modele
CITROEN. Personal service at any time a feature. Delerred paymen',
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 CITROEN. Cailhnces and Co., Itd, for thas latest cierann malet. Quink deliverlea and the best service alcer purchase. Jleserrid paymints ami
 CLULEY, "The Crearn of Coventry"e tight Cars," 2eseater with double
 CLYNO. ". Tho dight Car Supreme ilhb A-colinder witer-cocled,
 CLYNO, latest family model A-senter with starting, lighting, refachathon

 ELYNO, 10.8 hp, 2-senter and double Rickey, alarter, oomplete, $557-5$
 COVENTRY-PREMIER. Immerliato delivery.
COVENTRY.PREMIER. WCst Bron
 COVENTRY-PREMIER, 1923 moduls; cash, exchange or deferred. Ilalifax Motor Exchange, Horton St., IInlifax. exchange or zzz-52!
 W. 1 COENTR-PREMIER $10 h p, 1923$ model, 4-cylinder, overleat valect
 COVENTRY-PREMIER. GCAlfey's are authorized ngents. $1923,10 h p$, 4-cylinder. 2 or acater, 230 ruineas immediato delicery: gradlual pnyLinents. exichanges. 203 (it. lortland St., Londun. W. Ploncizz-355
Lisz.
COVENTRY-PREMIER, 1923. 4-cyllu ier, 2 and 4-scaters, 230 guineas, in stock. Authorized agent, Saxan Jefferis, 253 Deanagate nnd 27 Lonut
Mnsley St., Mancliuter. Tel., 4978 Ceatral. See also Singer and Joweti columas.
COVENTRY-PREMIER, H. B. Cook, ILd., Inrgest contractors London


 ments of ع185:, le!s rebate. Ser Gus, Wesmouth main norget zzz-530 COVENTRY-PREMIER. NAn Gus, Wesmouth, main norget agent.
Trade onpplicd. Now 4-ecalor, 230 guineas, in stock; exchangu ond easy
piymende arranged.
COVENTRY-pREMIEN. Frneat Grimaldal. Lid., authorized ngents. 1923
 COVENTRY-PREMIEN F.O.C.II for immerlinto delivery Cash ex-
 COVENTRY-PREMIER $192 \overline{3} 2$ nnd 4 -eenter matele in slock, 230 guincaf: exchanges, deferied paymenta. Parker'a, Bradshowgate, Bolloh COVENTRY-PREMIER, 1923, In otosk 2 or 4-senter, just arrived, 2at part exchange: beat prlco nllowirli exchnncek arrnnged anywhere: dls.
 COVENTRY-PREMIER, 2 and 4-scaters, In stock, Irom 230 gns, oash or $£ 60$ 7n. Gd. down and 12 paymienta of $£ 1517$.s. with cetion cf. dis-


## NEW LIGHT CARS AND CYCLECARS

 （continucd．noven，1922， 8 hp ， 2 －scator，Slandard modol，allw cather，fitho cur Mecep 1


 ROVER，ahp．all 1923 models in stock Lor immediato delierery： 2 －seater $12 y$
 nition hd
 Phone，Hitmmen stilli 2 238 ．




 SALMSON． 1923 ．Prry H．Small bone，Lld．can snpply 2－seater，with
 SALMSON FiJ Motroc Hromles．nole canceasion oalree tor Kent and Sel．Ir．miles 1727 ． SALMSON Smith and IUunter，nutborized asento，New modelst for im－

 Singen． 1923 modely，insh，exchange or deterred Hallax Motor Ex．
 Singer，1923，nitwather modeles， 2 gind 4 iencer modele 280 ．enineas．




 SiNGER．Authorizd Renits，West Bros．，Cranbrook Rd．，Mord 56 ． 9 g SINGER and Coventry．Prontiter cars in stock from 230 goineas；beest




 ant ent SNCER 0 OM
 Singer．Reys，nuthorized ngents for singe，and Premier cars：ex

 hangee，detoriced payments．Prarker＇s，Bradbhwgato．Boilton． 537 －806 SINGERS． 1923 ．Both 2 and 4 －satero．just arrived 280 guineas． cash or casiot ot ansy mymense vour ald Binser or any car or motor－ cesclo in pirte exchannec：wo encecaliziz to orchangeen and ailow beef prices：


 nosal
 STAN OARD TM， STANDARD Immodiato delisery ot the new 85ip model，$£ 275$ ．Hartit STANDARD Bhn 1923 zacaler with dickey．Atartor．and all．weat her aide
 STANDARD．Cailhness and Co．，Ltd．，for the lalest 8ho Standard models．Quick delirerics and the begt eervice after purchage Deferrisd payment 2172 ．
STONELEIGH， 1923 modele，trom e185：Cash，exchango or 537.839




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## （continued）．

STGAKERASQUIRE．Ernest Grimalif，Ltd．，authorized agents． 1923 10hp moxels from 8400 ，part rxchanges，delerred paymente 87 Git． Portland Sl．Tel．，Lanzham 2983
TALBOT cars．Mobea and Mebra（Eqtablithed 1893）．The Original Labte Bhr speciallats，anthorized agorita，can ofter rotu swock all modela of the fight cars built today；your presene inr in part exchenge：defered nay ments at 4 per cent． 144 Gt ．Portland st．W．W．Pbone．Lnpghar
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\begin{aligned}
& \text { No. } 1 \\
& \text { No. } \\
& \text { No. }- \\
& \text { N. } 7
\end{aligned}
$$

$$
\begin{aligned}
& \text { Cencth. Width. Eares. RIdges. } \\
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& 16 \times 10 \times 7 \times 91
\end{aligned}
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\begin{array}{cccccccccccccc}
\text { No. } 9 & \ldots & 16 & \times & 10 & \times & 7 & \times & 9 & \ldots & \pm 28 & 12 & 0 \\
\text { No. } 5 & \ldots & 18 & \times & 11 & \times & 8 & \times & 12 & \ldots & \mathbf{4 3 8} & 1 & 6 \\
\text { No. } 7 & \ldots & 24 & \times & 16 & \times & 8 & \times & 19 & \ldots & \pm 58 & 8 & 0
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