

Nº 4.

18TH DECEMBER, 1912.
ONE PENNY.

Registered at the G.P.O. as a Newspaper.

The Cyclocar



THE
'JONES' MOTOR CYCLE Speedometer



The only Speedometer to Measure the whole of the Coast Lines of G.B. and I.

HARRY LONG'S Records all measured with the "JONES":

1911—40,000 miles on a Triumph Motorcycle without a single stoppage or trouble with Speedometer.

1912—26,000 miles on a Singer Motorcycle with Sidecar: the only trouble, two lost pinions.

HARRY LONG writes since:

The "JONES" was registering perfectly after 30,000 miles with a Sidecar attached all the distance.

PRICES.

Model 26. Mileage to 10,000 M. and repeat £3 3 0
Model 31. Ditto and with Trip Recorder £4 4 0
Model 32. Ditto and with Max. Hand £5 5 0
With reliable Watch attached, either £1 1 0
model, extra
Speed to 60 or 80 m.p.h. any model.

The New **VEEDER** Gear-Driven Motorcycle Trip Cyclometer.



Solves the problem of a really reliable and accurate mileage recorder for motorcycle or cyclecar purposes, with spiral gear-box bracket and gears, as illustrated.

PRICE - - - 25/- COMPLETE.

With Special Bracket for Cyclecars, 27 6

MARKT & CO., (London), Ltd., 98-100, Clerkenwell Rd., E.C.

THE
PORTLAND Torpedo Light Car.

SMALL IN PRICE. HIGH IN QUALITY.

£98 Ready for the Road. Complete **£98**

'Phone: 7539 Gerrard

Wire: "Skidlesslv. London."

PORTLAND MOTOR Co.,

101, Great Portland Street, London, W.

(AGENTS WANTED)

KINDLY MENTION "THE CYCLECAR" WHEN CORRESPONDING WITH ADVERTISERS.

Follow the Arrows.

Pocket Edition of our Motor Catalogue.
A veritable encyclopedia of Motoring Necessities, containing 400 pages of illustrations and prices of anything and everything for the cyclecar. A copy sent post free on receipt of Coupon below.

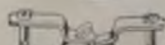


"Veena" Middle Side Lamps.
Lens ball handle. Red rear light. For cyclecars and sidecars. Height, 7 in. Face, 6 in. Depth, 4 1/2 in. No. 11187be, per pair, Brass, 20". Plated, 22".

"Veena" No. 9 Tall Lamp.
With ball handle and white side lens. No. 11187f. Brass ea. 13/6. Nickel, ea. 14/6.



The "Caterio" Belt Fastener.



A thoroughly reliable belt hook which can be quickly detached but will never slip apart at any speed. Will fit 1/2 in. belt. Price 6d. each.

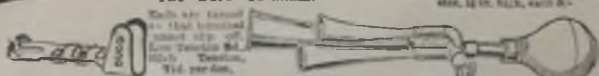
PATENT SINGLE SCREEN
Self adjustable for any angle.
No. 10112. 2/1.

From 2/11 to 2/6
Dial 2/11 to 2/6



The "Duco" Midget Sealite Plug. Oxidized brass and painted, with pure nickel piston. Single or three pins. No. 10110. Bicycle size, 1/2 in. high, each 2/6.

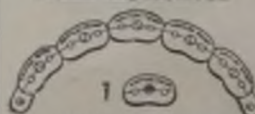
The "Duco" Terminal.



Each set fitted to that terminal cannot slip. Low Tension No. 10111. Brass. Terminal, 1/4 in. dia. 2/6.

THREE NOTE HORN

No. 10100. Large size, each 8/6.



WHISTLE BELTING.

Size Per ft. No. 10246. 1 in. 2/6. No. 10160. 1 1/2 in. 3/6. No. 10346. 2 in. 2/6. No. 10347. 2 1/2 in. 4/6.

The "Imp" Petrol Blow Torch.



This handy little torch heats or softens anything and is indispensable when you need a sharp and accurate heat. It is so simple to use that you can get the best results with the very least petrol. The handle is made of wood and speaks a stronger message than would otherwise be obtained. 8/6 each.

THE "WARROW" VALVE GRINDER.

The rotary motion of the handle produces a reciprocating motion of the spindle, and the valve is moved round just over half a revolution twice to every revolution of the handle. 10/6 each. Of all dealers.

"DUCO" MODEL X.
Combination Steel and Rubber-
Studded Non-Skid.

A specially strong and heavy non-skid cover, suitable for Cyclecars.



DUCO (REG.) MODEL X MOTORCYCLE TYRE

No. 14839. Size 26 in. x 2 1/2 in., Cover only. Price each - 45/-.

Raybestos BRAKE LINING.
If your brakes fail to grip, if they are too loose, if they squeal or chatter, the only satisfactory remedy is to line them with Raybestos Brake Lining. Heat-proof, oil-proof, water-proof, and easy nearly wear-proof. Used by all the leading car manufacturers and truck companies. Write for sample of Raybestos and full particulars.

VALVE GRINDING TOOLS.

The use of these tools makes the operation of grinding valves a pleasure. They save a lot of wear and tear and all the same time ensure the valve being ground true. No. 10120. Pair, each 3/6. No. 10120. Adjustable, each 2/6.

Double Purpose Oil Makers and Filler.



The best oil pump mounted on the engine. Fitted with two gauge strainers. Government standard. Flexible spout. Capacity 2 1/2 lbs. No. 10118. 2/9. 10119. 1 gal. size, 4/3 each.

Spore Petrol Can.

No. 10170. 1 gal. size, each 2/9. No. 10171. 1 gal. size, each 2/9.

"Duo" Type Repair Patches.

No. 10100. "Duo" Oil Filter. No. Size Per doz. 2 1/2 x 7 1/2 1/3. 1 1/2 x 7 1/2 1/3. 1 1/2 x 5 1/2 1/3. 2 1/2 x 12 2/3. 2 1/2 x 12 2/3.

Oil or Petrol Syringe.

Size 1 1/2 in. long. No. 10101. With 8 spots, each 2/9. per doz. 20. No. 10102. With 1 straight spot, each 2/2. per doz. 20.

BROWN BROTHERS, LIMITED.

Head Office: Gt. Eastern St., London, E.C.
269-275, DEANSGATE, MANCHESTER.
15, NEWTON ST., LONDON, W.

To Brown Brothers, Ltd., "Cyclecar."
Great Eastern St., London.
Please send Motor Catalogue.
Name.....
Address.....

DUO

**HOLDS THE
150, 200, 250, 300
MILES RECORD**

PRICE:
97 Guineas.

—and these records were made under weather conditions which would have caused most cyclecars endless trouble. A better proof of the fitness of the long belt drive for the work it has to perform could not be desired, and it should be borne in mind that not once during the whole 9 hours were the belts touched. They did not slip, they did not stretch.

**DUO CARS, LTD.,
76, York Street,
Westminster,
S.W.**



WAUCHOPE'S



OFFER EVERY MAKE

IN 1913 CYCLECARS.

The House famous throughout the Motor Cycling world for largest stocks, most varied selection and lowest prices for all best makes of Motorcycles, will apply to the new Cyclecar industry, the same methods of prompt delivery and best value which have proved so satisfactory to our thousands of satisfied customers.

Ask For Our Prompt Delivery Offers in

MOTORCYCLE & SIDECAR
COMBINATIONS OF ALL
BEST MAKES

G.W.K., A. C. Swindler, Singer
Cyclecars, Daimler, Humbercycles
and Morgan Runabouts.

S. H. WILLIAMSON.
Walthamstow, Essex. Telephone 4234.
Special 1913 cyclecar, £25.

WAUCHOPE'S, 9, SHOE LANE, LONDON E.C.

BEWARE

of cyclecars in the experimental stage.

A TIMELY HINT FROM A
LEADING MOTORING JOURNAL.

The Editor of "The Autocar" in issue of 7th December, says:—Between the miniature car and the cycle runabout a number of types have quite recently been introduced, many of them of an obviously experimental nature and embodying features which show only too plainly that they have not been fully tested, as they are unmechanical and have been tried and found wanting long ago, either in motorcycle or motorcar. It is quite possible that out of these experimental designs one or more satisfactory types may be evolved which will come between the miniature car and the simpler and cheaper cycle runabout, but so far as the machines on the market at the present time are concerned, we should recommend either the miniature car or the well-tried cycle type of tri-car or quad-car.

Where first cost is a consideration, it is far better to select a well-tried tri-car or quad than to go in for a vehicle which is neither one thing nor the other and which has not yet come out of the experimental stage.

Select the cyclecar of
proved merit—
the



SOCIABLE

PIONEER OF
CYCLECARS

ALONE IN 1907.
AHEAD IN 1912.

The makers of the "A.C." have had a longer experience than any others.

The "A.C." has a magnificent record in competitions and trials.

The design of the "A.C." is simple and workmanlike throughout.

The stability of the "A.C." is assured under all conditions.

The "A.C." is made throughout in one factory.

The "A.C." is moderate in cost and economical in upkeep.

More than 1,000 actually on the road!

STANDARD
Model de Luxe
£92-10s.



IMMEDIATE DELIVERY
FROM STOCK.

AUTO-CARRIERS (1911), LTD., Ferry Works, THAMES DITTON, England.

The following Agents have demonstration machines, and can arrange trial runs:

NOTTINGHAM—Mr. H. W. Gardiner, Thurland Street.

Colmore Row, LEEDS—Mr. G. E. Tennant, York Street.

STOKE-ON-TRENT—Messrs. F. W. Harris & Co., Hurslem.

Sole Agents for Scotland and Northumberland—Messrs. Rosleigh, Ltd., 32, Sandwick Place, Edinburgh, with branches at Aberdeen, Dundee, Glasgow, and Newcastle-on-Tyne.

BIRMINGHAM—The Colmore Motor Cycle Depot, 31,

GLOUCESTER—Messrs. Twining & Co., The Quay.

CINDERFORD—Mr. F. H. Mann, High Street.



We are . .
Booking
Deliveries

Any
Cyclecar
Accessories

Motorcycles
in Part
Payment

for . .
Singer,
G.W.K.,
Morgan.
Baby,
Portland,
Premier,
A.C. Sociable,
1913 Fords,
etc., etc. . . .



Best . .
Allowances
Deferred
Payments.

Early and
Immediate
Deliveries

MAUDES'
Motor Mart

(Cycle Department)
"The Spot for Bargains."
136, Gt. Portland St., LONDON, W.
Telephone: 4811. Telegrams: "A.M.A.U.C." London.

The Fastest and Most Economical Cyclecar is the

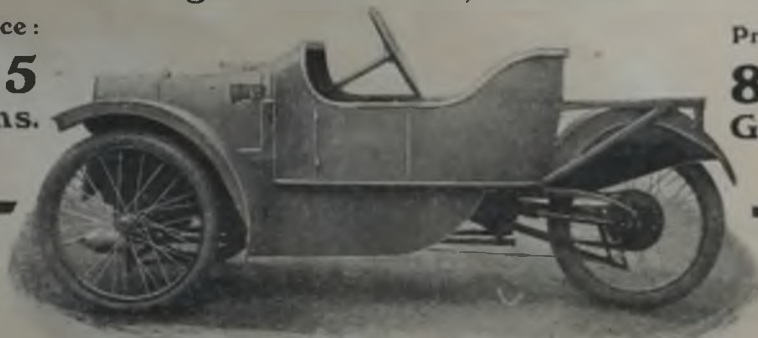
MORGAN

It is also the fastest cyclecar in existence—and it proves by its wonderful performance at Brooklands that a three-wheeler not only holds the ground at any speed—but does so better than a four-wheeler.

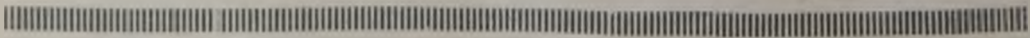
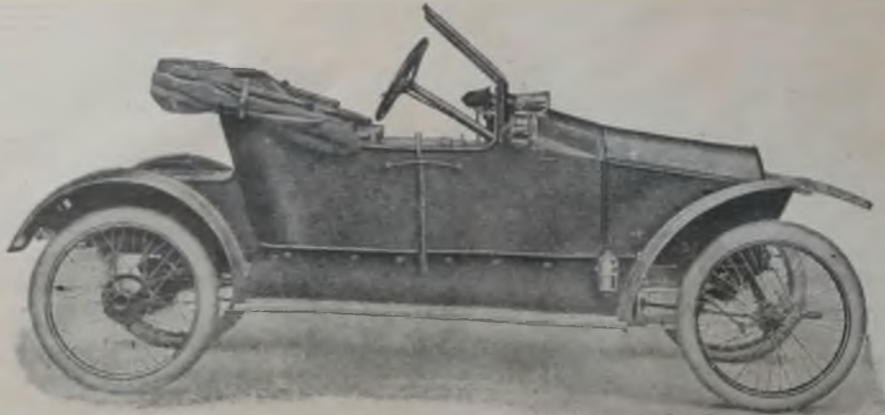
For full particulars and list of Agents, apply—

Morgan Motor Co., Malvern.

Price :
85
Gns.



Price :
85
Gns.



The

Humberette

on Bad Roads

An Unsolicited Testimonial.

Central Garage, Blackburn.
2nd December, 1912.

Dear Sirs,

We are pleased to inform you that we got through to Blackburn with the Humberette without a falter yesterday.

You will remember the state of the roads and the weather were awful for such a journey, and in some places in Staffordshire **the Humberette was inches deep in mud and slush. The wee Humber plugged through it like a big car.**

Now that we have tried it on our own hills we are surprised at its powers and comfort under all conditions. In traffic it is a treat to handle, and it is amusing to watch the surprise of the general public on seeing it dart along the streets so dainty and handy.

We must compliment you on its all-round capabilities and the motor critics here have one and all been complimentary as to its design and finish.

Well done Humber!

Yours faithfully

(Signed) J. WALSH & CO.

May we send you full particulars of the ever-ready, all-weather Humberette?

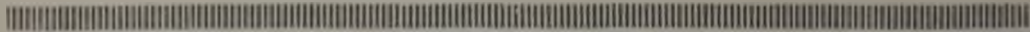
HUMBER LIMITED, COVENTRY.

LONDON.

32, Holborn Viaduct.
60/64, Brompton Road, S.W.

SOUTHAMPTON.

27, London Road.



KINDLY MENTION "THE CYCLECAR" WHEN CORRESPONDING WITH ADVERTISERS.

GLOBE ⁸ h.p. CARS

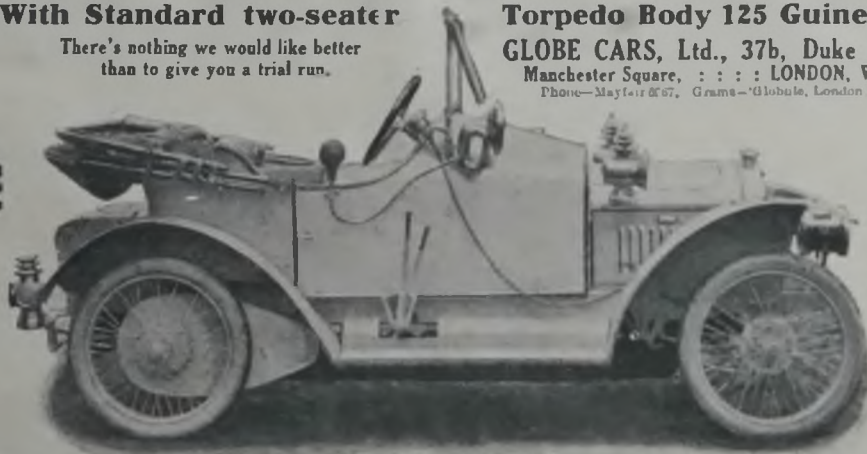
are the product of **five years exhaustive experiment**—are well designed, scientifically constructed, and built of the very best materials. Moreover, the self-tensioning belt drive is entirely original—and completely successful, and the whole of the mechanism is practically fool-proof. The low gear is only necessary on rare occasions, and the power of acceleration is remarkable.

With Standard two-seater

There's nothing we would like better than to give you a trial run.

Torpedo Body 125 Guineas.

GLOBE CARS, Ltd., 37b, Duke St.,
Manchester Square, : : : LONDON, W.
Phone—Mayfair 667, Grams—Globe, London

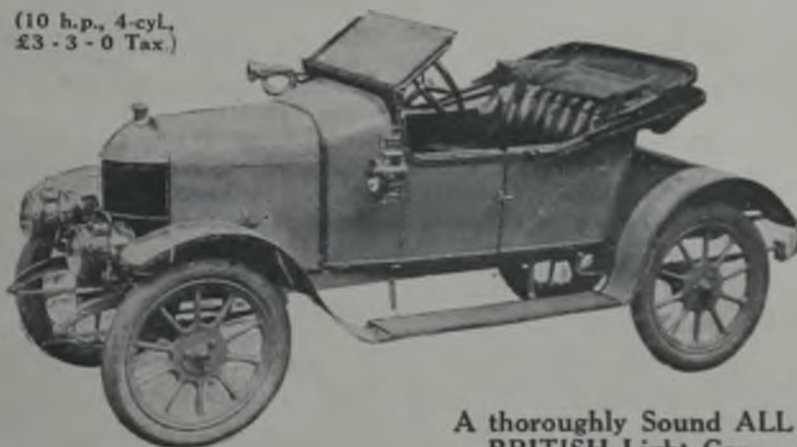


STEWART & ARDERN, Ltd., 18, WOODSTOCK STREET
Telephone: 5462 Mayfair. Telegrams: "Essandaymo, London." (Off Oxford Street), BOND STREET, LONDON, W.

Light Morris-Oxford Car.

(10 h.p., 4-cyl.,
£3-3-0 Tax.)

£
175
Complete



£
175
Complete

A thoroughly Sound ALL
BRITISH Light Car.

Thoroughly
Comprehensive
Specification

WHITE & POPPE 4-cyl. water-cooled Engine. Gate change three-speed Gearbox. 36-plate MULTIPLE DISC CLUTCH. Thermo syphon cooling. BOSCH MAGNETO. Pressed Steel Frame. WORM DRIVE. HOFFMANN Ball Bearings. FIVE SANKRY DETACHABLE WHEELS. DUNLOP CAR TYRES, 700 R. Really HIGH-CLASS flush-sided TORPEDO Body, with Hood, Folding Windscreens, Five Lamps, and complete Tool equipment. ABSOLUTELY READY FOR THE ROAD at £175 COMPLETE. ORDER NOW FOR EARLY DELIVERY.

£175

The Wilkinson

CYCLECAR CHASSIS

7 h.p. Water-cooled Engine . . . 3 Speeds and Reverse.

Prices	Chassis - - - -	145 Gns.
	Complete <small>with Body, Hood, Screen and Lamp</small> - - - -	167 Gns.

POTENTIAL cyclecar users should make a critical survey of the side and plan views of the Wilkinson, illustrated below. It will bear the minutest inspection from radiator to differential.

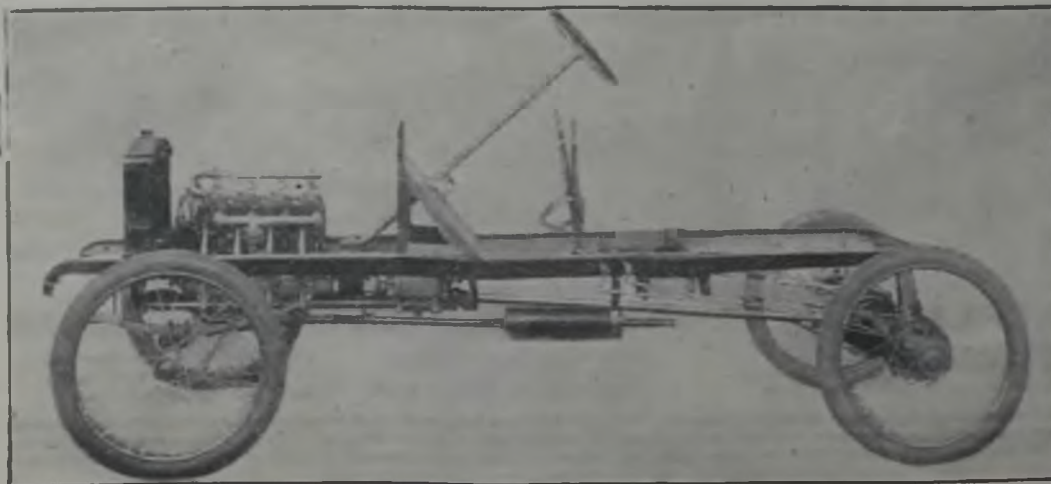
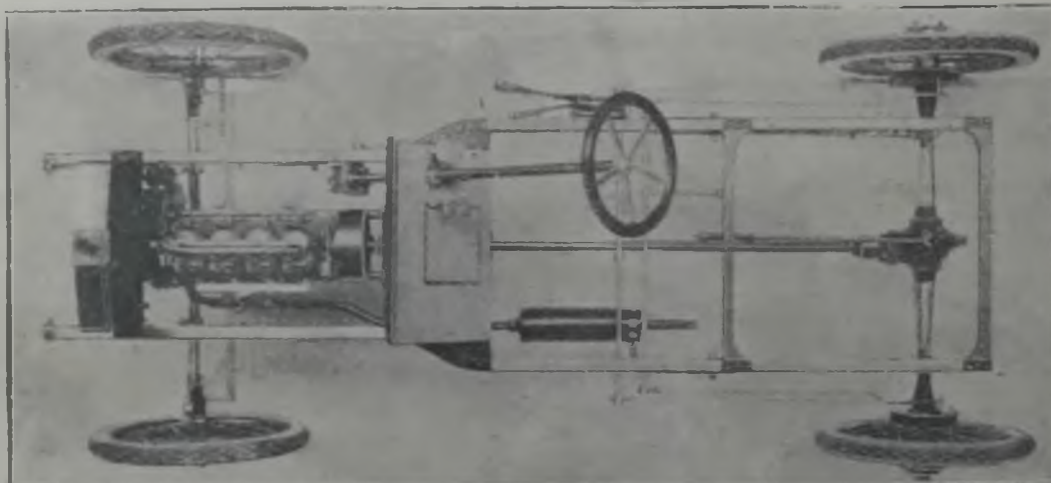
It is a simply designed example of the modern 4-cylinder car, built on a slightly reduced scale, and coming within the category of a cyclecar.

The engine develops ample power with a low petrol consumption, and the whole chassis is built to withstand the hardest wear.

A cyclecar only as far as weight, upkeep, cost of fuel, tyres, etc.—in other respects a high-class motor car.

Drop a line for further particulars:—

The WILKINSON T.M.C. CO., Oakley Works, Southfield Road, ACTON.



PLEASE REFER TO "THE CYCLECAR" IN YOUR LETTERS TO ADVERTISERS.

A REAL SOCIABLE RUNABOUT.

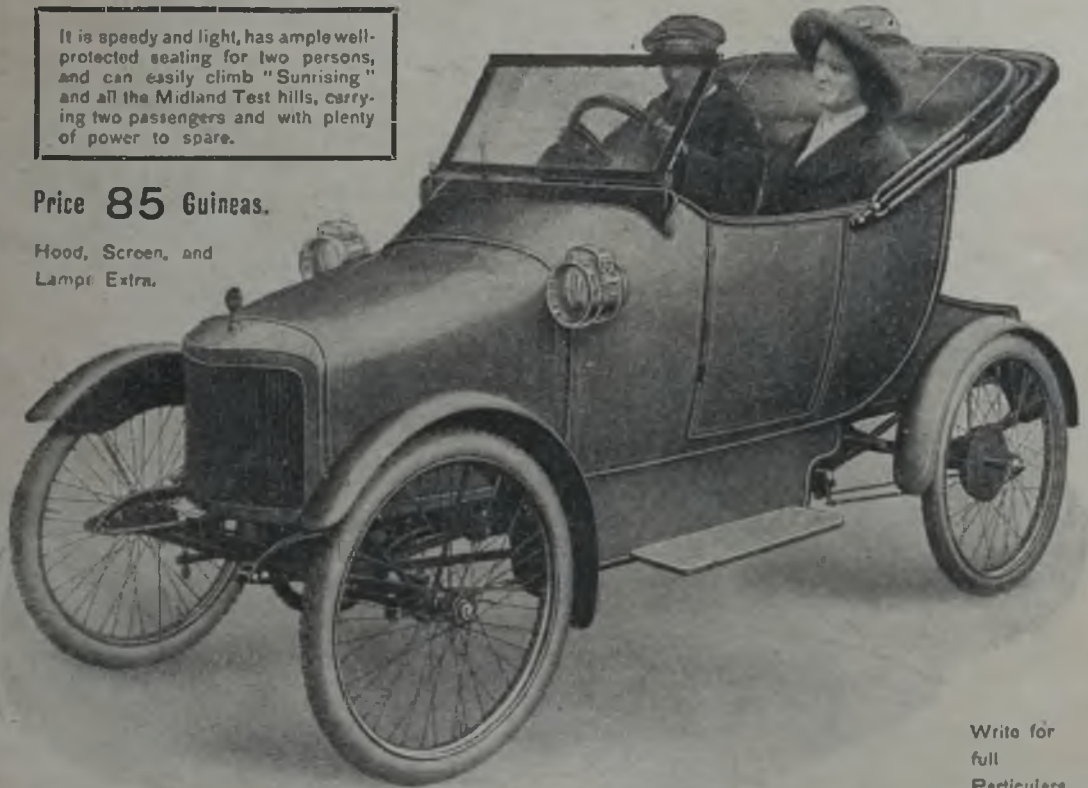
NEW-HUDSON Cyclecar

THE ONLY REAL CYCLECAR IN THE SHOW.
SIMPLE—SAFE—ECONOMICAL & EFFICIENT UNDER ALL CONDITIONS.

It is speedy and light, has ample well-protected seating for two persons, and can easily climb "Sunrising" and all the Midland Test hills, carrying two passengers and with plenty of power to spare.

Price 85 Guineas.

Hood, Screen, and
Lamps Extra.



Write for
full
Particulars.

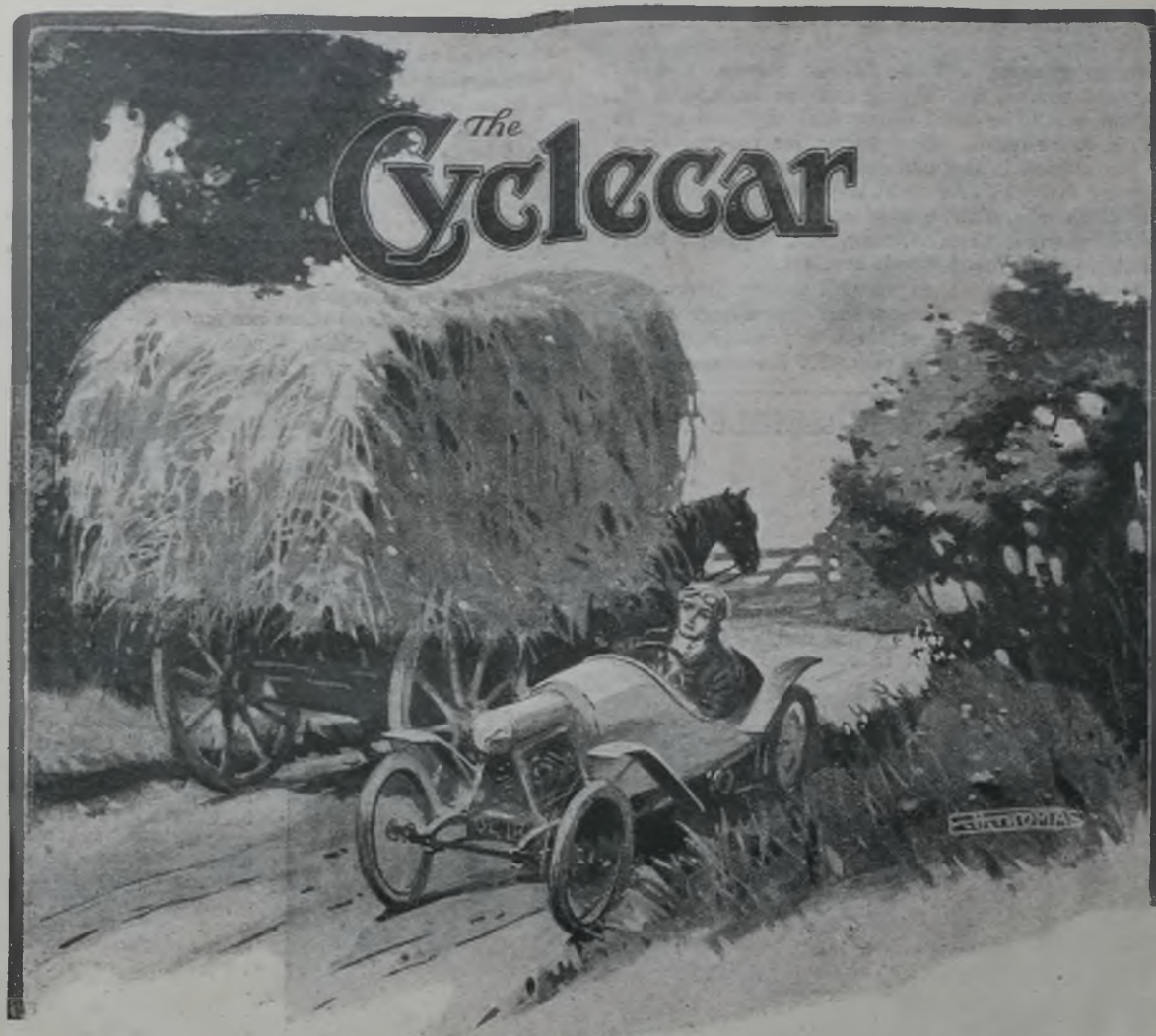
WORKS

LONDON—43, Gray's Inn Road, W.C.
MANCHESTER—205 & 245, Deansgate,
BRIGHTON—6, Western Road, Hove.

PARADE MILLS, BIRMINGHAM.

HULL—59, Anlaby Road.
LEEDS—16 & 17, Briggate.
LIVERPOOL—34, Renshaw Street.

NEWCASTLE—86, Northumberland St.
DUBLIN—29, Batchelor's Walk.
BELFAST—108, Ann Street.



THE FOUR-WHEELED SINGLE-SEATER And the Problem of Companionship.

THE number of motor-bicycles which are ridden solo, compared with passenger machines, is in the proportion of two to one. It is to be presumed that the owners of solo machines mostly ride them from choice, not necessity, although the dictates of economy may exert an influence in some cases. Be that as it may, it is very evident that the motor-bicycle without a sidecar is an exceedingly popular mount, possessing a fascination for its owner which not even the attraction of four wheels and greater stability can discourage.

That being the case, why should not a single-seated cyclecar appeal to those who have an aversion to the motor-bicycle? It must be borne in mind that there are tens of thousands well able to afford a motor-bicycle who would revel in the keen exhilaration of motoring and the fascination of the open road were they not feeling nervously apprehensive of the two-wheeled machine.

Not all of us want to take our aunts or cousins, our wives or other fellows' sisters, when we go motoring. Not all of us desire a companion at all. Yet it is frequently argued that nobody would think of buying a cyclecar unless it provided seating accommodation for two. This is also put forward as the chief reason for buying one at all.

If it were true that man invariably desired companionship, the tandem bicycle might be a popular type of machine. It certainly does not provide side-by-side seating, but that would not entirely account for its lack of popularity. The single-seated four-wheeler will provide the convenience, simplicity and economy of running of the motor-bicycle, with the further advantages of comfort and stability. A machine that would take up very little space, with an overall width of but 3 ft. 6 in., would be exceedingly easy to handle in traffic, and could "nip" in like a motor-bicycle where the driver of a car would not

FOUR-WHEELED SINGLE-SEATER (Contd.)

dare to venture. It would not require a high-powered engine, and having but one passenger, its driver, would be most economical on tyres and in petrol consumption. How handy for running down to the station in the morning for those who live in country districts. An ideal machine for ladies' use, on which shopping excursions or pleasure rides could be undertaken, offering, with a proper body, windscreens and hood, ample comfort.

As a final proposition we will put an interesting problem for those who assert that man always desires companionship. Why not two single-seaters, one for the wife and the other for yourself? Excursions could

then be made independently or together, as desired, and instead of the selfish brute taking out the car in order to reach the golf links, leaving the wife at home, the latter could enjoy an outing.

For commercial and professional purposes there should be an even greater vogue for the single-seater. Hundreds of doctors now use a motor-bicycle for their practice, because of its economy and the saving of time in paying visits that it offers. With the single-seater there is the additional advantage of comfort, overalls being unnecessary. For commercial travellers it would be easy to design a type providing space for samples, etc., and there are many other spheres, viewed from the utility side alone, in which the single-seater would offer incomparable advantages.

HOW THE SINGLE-SEATER APPEALS TO READERS.**A Solo Sidecarist.**

I was very much struck with the Rollo "Pony" at the recent Show, up to which time I had never given the single-seater a thought. With screen and hood as fitted, it should make a most comfortable all-weather machine, while the low-built rakish lines strike a "sporting note" that appealed to me at once. I have used a popular 3½ h.p. motor-bicycle and sidecar for some time past, but rarely carry a passenger, preferring to sit in comfort in the sidecar. Manchester. J. T. SMITH.

A Sociable with Single-seated Body.

Having ordered a special type of single-seater for next season, I am naturally most interested in the subject. The chassis of the machine has not been altered from the sociable pattern, but the bodywork has been specially designed with only a single seat. I consider that the most important factor in the design for a single-seater is its appearance. Its lines must be pleasing yet practical, graceful yet easily cleaned, and not offering too much surface to the wind. London, N. ARTHUR SKERRIES.

A Question of Comfort.

I have discussed your idea of a single-seated cyclecar with numerous friends and acquaintances. Many people ask me "Why have a single-seater cycle car when you can get a motor-bicycle to do the work much cheaper?" As a matter of fact, I am not so youthful as I once was, and my business demands that I should be able to present myself at my journey's end in a cleanly condition. With a cyclecar I can simply put on my overcoat and wrap a rug around me, and yet arrive at my destination spotless, thanks to a screen, hood, and efficient mudguarding.

I have no hot cylinders close to my legs to burn my trousers or overcoat; in fact, in a single-seater I am as comfortable as in an armchair.

Kingston.

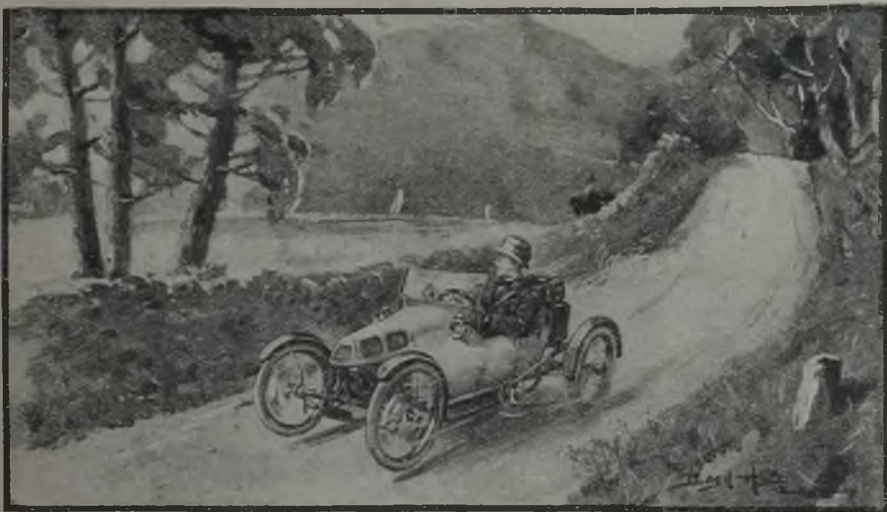
E. R. W.-S.

Riding Alone for Pleasure.

In past days motorcyclists have sometimes attached forecars to their machines, in order to render them safer in grease, but with no idea of carrying a passenger. The same idea holds good with regard to the single-seater cyclecar or monocar. It is intended to transport its rider as swiftly and as easily as a motor-bicycle, but with greater stability and comfort. There are thousands who enjoy solo motor-bicycle riding, and who ride alone for the pleasure of being alone and not from the necessity, and why therefore should not the monocar appeal?

Bournemouth.

V. C. W.



"Revels in the keen exhilaration of motoring and the fascination of the open road."

100,000 Miles Companionless.

I am an old cyclist, still very fond of the pastime and a keen reader of your other journal, "Cycling." At the same time, the idea of getting a motor-bicycle has often occurred to me. What I dislike about the motor-bicycle, however, is its weight, clumsiness and complication. I thought one of the cyclecars at the Show hit a better idea, for after having the levers explained to me, I felt convinced that I could learn to drive in a very short time, and then I opened THE CYCLECAR and read your prediction of a vogue for the single-seater. That's it! I have no friends or relatives whom I wish to take out—I am a bachelor. I have cycled over 100,000 miles without a companion. The single-seated cyclecar is exactly my ideal.

A CYCLIST OF 18 YEARS.

London, S.W.

PREMIER

CYCLE CARS

ALL THE COMFORTS OF THE MOTOR CAR
AT THE COST OF MOTOR-CYCLING.

SPECIFICATION :

Engine - Air-cooled twin, 85 x 83 mm., 998 c.c., cylinders 50°.	Brakes - - Foot operating band brake on countershaft. Two internal expanding brakes in rear wheels, hand operated.
Ignition - Bosch High Tension Magneto.	Back Axle - Premier differential. Substantial design.
Chassis - Tubular trussed construction of heavy gauge weldless tubing.	Dimensions - Wheel base, 6 ft. 6 in.; track 4 ft.; length O.A., 8 ft. 6 in.
Springing - Half elliptic front. Quarter elliptic rear.	Weight - - 5½ cwt., approximately.
Transmission - Chain throughout, protected by splash guard.	Body - - Two-seater, of ample width, with scuttle dash, side door, and roomy tool locker at rear.
Gear Box - Premier two-speed and reverse.	Tyres - - Dunlop plain, 650 x 65.
Clutch - Leather-to-metal cone type.	
Steering Gear - Worm and segment. 14½ in. celluloid covered steering wheel.	

PRICE 100 GUINEAS

HOOD - Seven Guineas Extra.

SCREEN - Three Guineas Extra.

Write to-day for Cyclecar Folder.

THE PREMIER CYCLE
CO., LTD., COVENTRY,
and 20, Holborn Viaduct, E.C.



KINDLY MENTION "THE CYCLECAR" IN YOUR LETTERS TO ADVERTISERS.

A11

PALMER

CORD CYCLECAR TYRES



FOR
DURABILITY,
EFFICIENCY
AND
ECONOMY.



THE pleasures of Cyclecaring will depend very largely upon tyre reliability. The Palmer Cord Tyre being unaffected by moisture can never burst. The cord foundation is most difficult to puncture, the experience of car users being that the frequency of punctures is about one-fifth of what it is with canvas tyres such as other tyre makers will supply for cyclecars.

THE initial cost of Palmer Cord Tyres is necessarily higher than canvas tyres, but the difference is more than compensated for by the greatly increased mileage obtainable. Further, all Palmer Cyclecar Tyres which have been reasonably well treated can be retreaded at a relatively low cost and will then give from three to four-fifths of the original mileage.

CORD Cyclecar Tyres are made in one size only, 26 in. x 3 in., but with two types of beaded edge, one to fit Palmer Tubular pattern rims, as generally used on Motorcycles and Sidecars, and the other to fit the round based voiturette rim which will probably become a standard for Cyclecars. It is important to specify the type of rim when ordering.

The butted tube is recommended when Cyclecar Tyres are fitted to Motorcycles; for Cyclecar and Sidecar wheels the endless tube is more suitable. Metal Studded Tyres should not be fitted to Solo machines.

PRICES.

	£	s.	d.
Ribbed Tread Cover	4	2	0
Metal Studded Cover	5	10	0
Endless Tube		15	0
Butted Tube		17	6

Telegrams:
"TYRICORD,
WESTCENT,
LONDON."

THE PALMER TYRE, LTD.,
119, 121 & 123, Shaftesbury Av., LONDON, W.C.

Telephone:
GERRARD 1214
(4 lines).

The Cyclecar Trophy



IN the motoring world the hour record is regarded as one of the severest tests to which it is possible to subject a machine, be it car, motor-bicycle or cyclecar. Driving a machine "all out" on Brooklands track for 60 minutes on end is a certain method of finding out weak points in design or materials. Few machines survive this test, and those which do may be reckoned as absolutely reliable and sturdily-constructed vehicles. The racing test naturally helps to develop and improve cyclecars just as it has developed and improved cars and motor-bicycles, and it was for this reason that in the spring of this year the proprietors of "Motor Cycling" offered a handsome silver challenge trophy to be awarded to the owner of the cyclecar covering the greatest distance in a period of one hour at Brooklands during 1912. In order to stimulate interest and to encourage drivers to make frequent attempts on the previous best, monthly gold medals were offered for best performances in attempts on the hour record. About half-a-dozen gold medals have already been awarded. Now that cyclecar matters are dealt with in a separate journal, the trophy will be linked up with THE CYCLECAR in future, instead of "Motor Cycling."

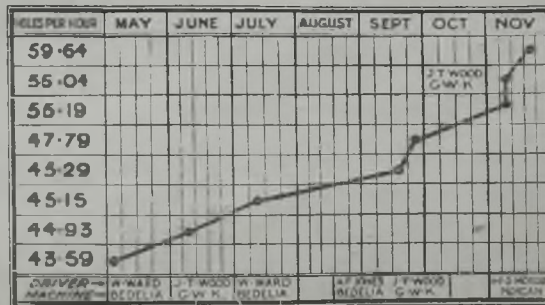
The chart appearing on this page illustrates how more and more miles have been gradually crammed into the period allowed. In the first week in May the Bedelia set up a very creditable performance by achieving 43 1/2 miles in one hour and covering the distance without experiencing trouble of any kind. This record stood for a little over a month before being beaten by Mr. J. T. Wood, one of the directors of G.W.K., Ltd., who added nearly one-and-a-half mile to the previous best, in spite of misfiring troubles on his engine. Mr. Ward, of the Bedelia, however, regained the record in July, undeterred by a fire, which put an end to his first attempt, owing to the heat of the silencer setting the floorboards alight. His performance would have been better still had not the ignition lever jammed and prevented full spark advance being given. As it was, the Bedelia, which was fitted with a streamline body, covered 45 miles 278 yds. in one hour. A new Bedelia driver, Mr. A. F. Jones, made his appearance in September, and added 226 yds. to the previous best. He also set up figures for the 50 miles, 100 miles and 2 hours. His hour record was not allowed to stand long, for a week afterwards Mr.

J. T. Wood was out again with his water-cooled two-cylinder G.W.K. and put the record up to 47.79 miles. This stood for six weeks, until at the last B.M.C.R.C. race meeting of the 1912 season, Mr. H. F. S. Morgan, on his 8 h.p. three-wheeler, actually put the record up to 55.19 miles—a magnificent performance indeed. A few days later Mr. J. T. Wood covered over 56 miles in one hour, and so recovered the record. He was not allowed to hold it long, for Mr. Morgan came down to the track and was within an ace of doing 60 miles in one hour on his single-seater, the exact figure being 59 miles 1120 yds. This record was made 23rd November.

There is still time for the Morgan record to be beaten, and for the benefit of those who contemplate an attempt, we give the following information as to the conditions to be gone through before the record is passed. First of all 24 hours notice of the attempt must be given to the A.-C.U., 89, Pall Mall, London, S.W. The Brooklands track men and an official timekeeper must be engaged; the clerk of the course is Major Lindsay Lloyd, whose address is

Carlton House, Regent Street, London, S.W. The official timekeeper generally employed is Mr. A. V. Ebbelwhite, 4, High Street, Aldgate, E.C., who will measure the engine and see that the machine comes within the cyclecar weight limit. The fees payable are as follow:—Permit from A.-C.U., 10s. 6d.; track and timekeeper's fees, 6 guineas; electrical timing costs more, and is not often utilized for these one-hour trials. As can be imagined, the method of calculating the total distance for the hour is somewhat complicated, because it is impossible for the timekeeper to be at the exact spot where the machine is at the moment of expiration of the hour. However, there are two ways in which the exact distance can be calculated. One is for the timekeeper to watch the machine and mark the exact spot it is passing at the conclusion of the hour, and the other is to work out the distance to the nearest lap and calculate from that and from the average speed the exact distance covered in the hour.

The challenge trophy, which is at present on view at Robertson's, Great Portland Street, London, W., is a magnificent three-handled cup, the top of which is surmounted by a beautifully-modelled winged figure. It has been especially designed by Messrs. Vaughton's of Birmingham.



How the hour record has grown.



H. F. S. Morgan.
W. Ward.
J. T. Wood.

SURPRISING THE BIG-CAR DRIVERS.

Through Mud and Rain on a Belt-driven Cyclecar.

HAVING recently become the owner of a new belt-driven cyclecar, the desire to test its speed and hill-climbing capabilities in the open country grew intense daily. What a relief when the opportunity occurred for a run at the week-end. I set out companionless, and with all the pride and glory of a new owner. The air was cold and dry, but mufflers, overcoats and a duplication of waistcoats prevented my feeling its biting blast. An uneventful run brought me to Surbiton, where a frantic display of hand-waving at a passing window compelled me to bring my Duo to a standstill.

"You're just the man I want," exclaimed a figure in the doorway, whom I now recognized. "Would you drive a friend of mine and myself to a point five miles beyond Horsham for lunch?" Catching a glimpse of the third individual, whose avoirdupois was unmistakably heavy, doubts arose in my mind as to the carrying capacity of my small two-seater sociable, although I knew for certain, from my short experience, that the engine was equal to three times the load.

"By the way, your back tyre is flat," said my friend; and so it was, though I knew it not, a tribute to the wonderful springing of the cyclecar. The puncture was repaired, a slack cover facilitating matters, and we were soon on the move.

The portly gentleman sat beside me, while our mutual friend balanced himself on the side of the body in a most uncomfortable position. A horrible thought passed across my mind after we had progressed a mile or so: "Is the load too much?" for the engine appeared sluggish and no speed could be attained. A halt was called, and a cursory examination revealed the collapse of the defaulting back tyre. A new tube was speedily inserted, and once again we got under way with our load of 37 stone.

It is almost incredible how a flat tyre will affect the running. The machine was now lively in the extreme, and made short work of all hills. We created an extraordinary amount of interest en route, due, doubtless, to our unconventional seating arrangements, and also to the muddy, dilapidated ap-

pearance of the machine, which had not yet had its shining coat of varnish.

A short halt at Burford Bridge drew attention to the machine from many lordly owners and passengers of luxurious limousines, while our first thrill occurred on the slight incline at Dorking station. A large car had just passed us in the opposite direction, leaving a dense cloud of dust behind it. Two other cars were almost on top of us before we could see anything; but, thanks to our narrow track and a swerve that a big car would have made with difficulty, we just scraped by. The termination of our outward journey was reached without incident, and a welcome lunch awaited us.

Towards 4 o'clock two of us set out on the return journey, which gave promise of being a decidedly damp one, as rain was falling fast. The roads were soon treacherous, but later well saturated and safer. Without hood or screen, we hastened on, regardless of speed limits, for the rain was penetrating our raiment in an uncomfortable way. The weather may have damped our spirits, but the engine appeared to revel in it. Every hill was levelled out on top gear at a speed which would put many a 40 h.p. car to shame; in fact, the occupants of every car we passed—and they were not few—seemed to regard our progress with concern. Here was a vehicle, costing less than a fifth of their initial outlay, speeding two individuals onwards at a pace which caused bewilderment, and which was not a veritable drinker of petrol and eater of tyres.

Though the rain fell piteously and unceasingly, our belts never once gave signs of slip, nor was the belt tension increased. Surely the proof of the belt drive's efficiency is demonstrated under such conditions. Our journey from a point beyond Horsham to Surbiton—a distance of 30 miles—was accomplished without mishap in about twice as many minutes. Whatever the opinions my passenger and myself held at the beginning of the run with regard to belts, we were both determined that greasy gearboxes and noisy differentials were not made for us. Our faith is in belts.

P.B.



THREE UP ON
A CYCLECAR.

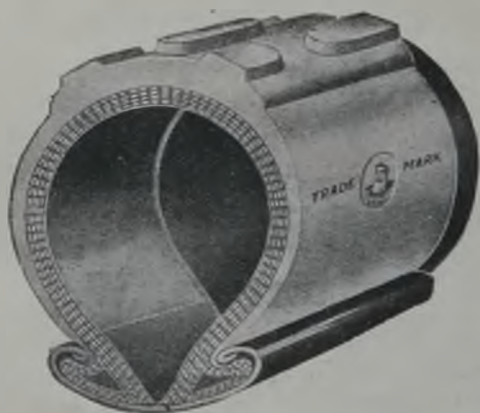
How the load felt to the unfortunate driver whose new machine was commandeered for a trip with three up, making a total weight of 37 stone.

**“EMINENTLY SUITABLE
FOR CYCLECAR USE,”**

is the verdict of the Editor of
“The Cyclecar” upon the new

**DUNLOP
“PILLION” TYRE**

(650 x 65 mm.)



**Note the four plies of canvas
which afford great strength.**

Beware of under-tyring your cyclecar. It is both dangerous and expensive to do so. The “Pillion” meets the case exactly and fills the same place in the cyclecar world as the famous grooved Dunlop already occupies in the car world.

**Dunlop tyres have been adopted as
standard by sixteen of the leading
cyclecar manufacturers.**

Illustrated manual of tyres, tools, tubes and sundries, posted anywhere on application.

The DUNLOP RUBBER Co., Ltd., Aston Cross, Birmingham; 146, Clerkenwell Road, London, E.C.
Branches—Coventry, Nottingham, Manchester, Newcastle, Bristol, Leeds, Liverpool, Glasgow, Dublin, Belfast.

DO NOT FORGET TO MENTION “THE CYCLECAR.”

A15



As illustrated
£ 6 5 .
Without Hood
or Screen. :: ::

THE
BABY Car
NOTE OUR PRICE.

£65 COMPLETE AS
ILLUSTRATION.

OR WITH HOOD AND SCREEN, **£75**

We have 25 of these Baby Cars on order from V. Silvestre, of 46, Rue de Londres, Paris,
and are open to sell them at these prices.

Phone—7539 Gerrard.

Wire—"Skidlessly, London."

PORTLAND MOTOR CO.,
101, Gt. Portland Street, London, W.

As illustrated
£ 7 5 .
With Hood and
Screen. :: :: ::



A16

PLEASE REFER TO "THE CYCLECAR" WHEN CORRESPONDING WITH ADVERTISERS.

THE CYCLECAR WORLD.

Notes, News and Gossip of The New Motoring.

Next Saturday—

The first cyclecar reliability trial.

The Sutton Coldfield A.C. hope to receive a representative entry for this event.

Next Wednesday's issue of THE CYCLECAR will contain a fully illustrated report.

An output of 2000 machines in 1913 is being attempted by one big cyclecar concern.

A certain privately-built belt-driven cyclecar is being much talked about by those in the know.

There are so many excellent points in its design that it is a pity it is not being made commercially.

There is a fascination in cyclecarring which neither the motor-bicycle nor the motorcar can give.

To ladies, the simplicity of the cyclecar is sure to appeal. It is the easiest motor vehicle for a lady to drive.

One of the cyclecar makers, of whom little has been heard as yet, is negotiating for big works in Coventry.

Forms of application for membership of the Cyclecar Club can be obtained from the offices of THE CYCLECAR.

A certain well-known air-cooled V-type cyclecar engine will be converted to water-cooling in the course of the next few months.

Owners of belt-driven cyclecars will be amused to hear that one participant in the London-Exeter trial intends to carry 12 spare belts!

At the opening run of the Cyclecar Club one member came down on a belt-driven machine with only one belt. This notwithstanding, he had no trouble from belt slip, although the belt was smothered in mud.

A well-known motorecyclist, who has achieved fame in driving a sidecar combination, contemplates, we believe, transferring his 3½ h.p. engine from his motor-bicycle to the cyclecar which he proposes to enter for the London-Exeter run.

Hundreds of letters are pouring into this office daily. In endeavouring to give a fair hearing to readers' views, we ask that correspondents should state them as briefly as possible, while preference will be given to letters appearing above the proper names of the writers.

In foggy weather, diffuse the rays of an acetylene headlight by tying a handkerchief round the lens or pasting paper over it. Yellow rays are said to be the most penetrating in fog, and the Goldenlyte lamps made by Messrs. S. Smith and Son, which have brassed reflectors, were specially designed with this object in view.

All change of copy for advertisements in the next issue of THE CYCLECAR, which will be on sale everywhere Tuesday morning (owing to the Christmas holidays), should come to hand by first post to-morrow (Thursday). Similarly, the editorial pages will close earlier than usual. Copies of the paper will be obtainable in London Monday evening.

The hour record—

May soon exceed 60 miles.

It is expected that a G.W.K. will shortly make another attempt.

A belt-driven machine, which has not yet tried for the record, will be making an attempt shortly.

Mr. G. N. Higgs has placed his garage, 31, Vauxhall Bridge Road, at the disposal of members of the Cyclecar Club, at a very nominal charge.

The most dangerous stretches of road are the parts partially sheltered by bridges, where the mud is in a semi-liquid condition of the most treacherous description.

The meets and runs of the Cyclecar Club radiate to all parts of the country, and will be a potent factor in demonstrating the advantages of the new motoring.

Two well-known cyclists, holding several amateur records, Messrs. Lionel Martin and R. Bamford, have set up in the cyclecar business, and will handle various types of machines.

Is it a sign of the times that an advertiser in our "Sale and Exchange" columns last week offered to exchange a governess cart for a cyclecar? Another wanted to exchange a Ford car for a cyclecar.

Several cyclecar entries have been received for the South Birmingham Motor Cycle Club Trial on Friday, 27th December. The route is from Birmingham to Gloucester, and includes Rose Hill and Birdlip.

The next run of the Cyclecar Club will be an informal one. On 5th January the meeting-place will be the "Saracen's Head," Dunstable, for lunch, and the "Red Lion," Hatfield, for tea. On Saturday, 25th January, there will be a run to the Burford Bridge Hotel, near Dorking, for tea.

The Paris show was a wonderful spectacle. Huge crowds thronged the vast Salon nightly, mostly making in a solid phalanx to the magnificent central hall, to gaze in admiration upon the brilliantly-illuminated dome. Outside, the whole vast frontage, glowing a subdued, dull red, was a wonderful picture.

"Air cooling will certainly be a failure. . . the wear of tyres is much heavier than on a motor-bicycle . . . it is not easy for these little cars to keep the road." We would suggest to "Ixion," of the "Sunday Chronicle," who pens these lucubrations, that he should make a practical trial for himself.

Those cyclecarists who, if they get spattered with mud from lack of effective mud-shields, wonder why it takes such a time to get rid of the stains of travel, should examine closely the black, unctuous compound of the road surface. The wet tar surface sets free various oils which settle deep in the pores of the skin.

The rush to get in with the cyclecar movement prompts a provincial newspaper to announce a new feature conducted by a "gentleman who is in intimate touch with the cycle side of motoring." This is frank and to the point; a less ingenuous person would have claimed to be in touch with the motoring side of motoring.

THE WORLD—VIEWED FROM THE SEAT OF A CYCLECAR.



Our Front Cover.

It may not be generally realized that in devoting the front cover of *THE CYCLECAR* to a striking illustration each week, a very valuable advertisement position is sacrificed, one which naturally would command a very high price. One of the objects of *THE CYCLECAR*, however, is to direct the attention of thousands who know nothing of motoring now to the advantages of the cyclecar, and no better method of doing this could be found than by pictorial representation of the pastime displayed on every bookstall throughout the country. This week's picture depicts the scene outside the Hut Hotel, Wisley, on the occasion of the first run of the Cyclecar Club, 7th December, and the machine in the foreground is Mr. G. N. Higgs's "G.N.," "Hitchi-Koo."

Looking Ahead.

New Year's Day will mark the publication of No. 6 of *THE CYCLECAR*. Owing to the intervening Christmas holidays, it is particularly requested that advertisement copy for this issue should be forwarded early. It should come to hand by Monday next, 23rd December.

A18

A Short Trial of a Humberette.

The Ripley road has a charm all its own, and, despite the surface, which on Saturday was about as bad as it could be, there were compensations, for the late autumn colourings of the heather, bracken and firs were superb. One of our staff ambled down to Wisley on a Humberette, the plain tyres on the back wheels preventing anything in the nature of the full speed of the machine being indulged in. It was a first trial of this make, and further spins on the following day helped to emphasize an early impression that the Humberette is a comfortable, speedy and very easily-driven cyclecar. Its handiness in traffic is remarkable, due to the quick acceleration of the engine. Perhaps the most notable feature is the fact that on the top gear one can drive at five miles an hour and progressively up to a comfortable thirty. The 8 h.p. air-cooled engine does not overheat, and is ample for the weight to be driven. Several passengers were carried in turn, and all remarked on the good springing and general comfort for such a small car. The road shocks are, indeed, nothing like so pronounced as one would expect. Gear changing is simplicity itself and braking power is ample.

MOVING IN A DIFFERENT WORLD.

An Interview with Mr. Alfred Bednell, Secretary of the Manufacturers' Union.

VERY original and practical views on the cyclecar movement were put forward by Mr. Alfred Bednell, the secretary of the Cycle and Motor Cycle Manufacturers and Traders Union, in an interview that we had with him last week. He is necessarily closely in touch with the views of the Midland motorcycle and motorcar manufacturers, and has the further advantage of considerable personal experience of cyclecarring.

"I know men here in Coventry," he said, "who think that the cyclecar will develop into a light car, and that those who buy such machines will not be bothered to tinker with belts or fiddle about with air-cooled engines on the road. These views are prompted by the back seats of luxuriously-upholstered limousines; they are the views of men who move in an atmosphere entirely different to that of the motorcycle and cyclecar world, which possesses so much enthusiasm, life and energy. They do not realize, like you and I, the pleasure that the motorcyclist or cyclecarist takes in 'tinkering' with his machine, in pulling it to bits and putting it together again, simply for that inborn love of things mechanical. They do not realize the joys of experimenting and adjusting in which the cyclecarist or motorcyclist revels.

A Matter of "Vital Importance."

"It was just the same in the old days of the pedal-bicycle boom, when men in good positions would even utilize their drawing-rooms in which to take down the back wheel bearings, clean every ball with paraffin, and set the adjustment to a nicety. For the very same reasons, cyclecarists to-day do not object to tinkering with their machines in an endeavour to obtain better results.

"With the motorcar or light car it is different. Take the engine, for instance. In the majority of cases it requires at least two men to handle most of the parts of a motorcar; it requires special tools and appliances to assemble the various parts of the machine; whereas a cyclecarist or a motorcyclist, by his own unaided intellect and strength, can tinker and adjust his machine to his heart's desire. It is clear that the intense interest in the mechanical side of cyclecarring is of very vital importance to the movement."

We are intimately acquainted with many owners of cyclecars, and almost invariably we find that one of the greatest pleasures that they extract from the pastime is in altering, adjusting and improving their machines, carrying out original ideas of their own.

"Absolutely Impossible."

"Certain expert car designers in Coventry have told me," continued Mr. Bednell, "that it was absolutely impossible to construct miniature motorcars, with water-cooling, gearbox, differential and shaft drive to come under the 6 cwt. limit which the definition of a cyclecar imposes. The small car type of machine has still to prove itself a practical vehicle, and a year from now we shall know how accurate these expert Coventry designers were in their statements. But if this type of cyclecar proves itself to be reliable, economical and practical in every way, cyclecar designers will have taught motorcar constructors a lesson in ways and means which they have been striving to learn for years. For is not the question of weight reduction one of the most important of the day, not only because the cost of material in the majority of cars is actually five times as ex-

pensive as the labour put into the car, but also because every pound saved in the chassis or body means greater economy in running, more speed, less petrol consumption and less wear and tear?"

We broached the question of a separate show for cyclecars, but, from what Mr. Bednell said, we gathered that there is no likelihood of this occurring, at any rate, next year.

The Classification Question.

We then asked if in the Union there was a special section for cyclecar makers. "Not at present," said Mr. Bednell, "though it is possible that one will be formed shortly."

"Are most of the cyclecar makers already members of your Union?"

"Practically every one," was the reply.

"Well, then, supposing this new section of the Union is formed, and competitions for cyclecars become popular, as, indeed, there is every sign will be the case, we presume that one of the first moves of the Union will be to establish a classification of vehicles, for it would be obviously unfair for a machine like the New Hudson to compete on equal terms with the Perry, or the Swift, or the Singer?"

No Price Qualification.

"Quite so, and probably it will be the joint work of the Auto-Cycle Union and our Union to go into this very matter. I have spent many hours on the question of the definition of a cyclecar, and, although price has been mentioned as a factor which should be taken into consideration in drawing up a definition, I am afraid that, on closer consideration, it is quite out of the question. There is nothing to prevent a manufacturer, if he likes, from building a cyclecar of silver and gold, and a machine may be just as much a cyclecar if it costs £150 as one costing £100. The difference in workmanship and material may alone account for the extra cost."

"It would be fatal, would it not, to suggest any limitations in the way of design?" we asked.

"Certainly. You must leave designers absolutely unfettered as to what type of engine, frame, or transmission they may employ. For all we know, the cyclecar of the future may utilize ideas from aeroplanes, and to make an arbitrary definition that a machine must be equipped with a tubular or pressed-steel frame is simply retarding progress."

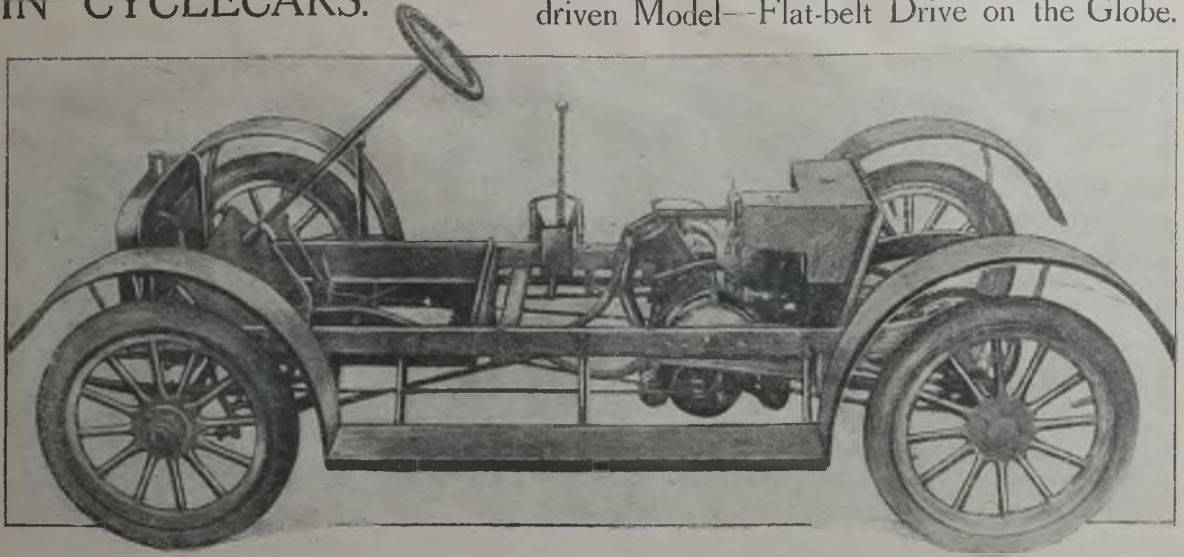
Knowing Mr. Bednell's great interest in the movement, we asked him if he had ordered a machine for his own use. He confessed that, although he had not, he was very favourably impressed with the simplicity and appearance of the New Hudson. The fastest machine he has tried so far was the Rudge. He too, like ourselves, has tasted the joys of 55 miles an hour on a 4-cwt. sociable.

The C. and M.C.M. and T.U., Ltd., are indeed fortunate in possessing the services of a secretary so enterprising and energetic as Mr. Bednell, which, under his able organization, has conducted three extraordinarily successful Olympia Shows for cycles and motorcycles, at the last of which the cyclecar, as we know it to-day, was exhibited for the first time.

The Berlin Post Office has been experimenting for some time with electrically-driven cyclecars, with the result that they are now purchasing a number of machines, which are capable of transporting 5 cwt. at a maximum speed of 18 miles per hour.

NOVEL FEATURES IN CYCLECARS.

New Four-wheel Crouch Merlin Parts for
Home Constructors—The Woodrow Chain-
driven Model—Flat-belt Drive on the Globe.



Chassis of the new Crouch four-wheeler, showing novel position of water-cooled twin-cylinder engine.

The New Four-wheel Crouch.

A FOUR-WHEELED cyclecar for 1913, on the same lines as their well-known three-wheeler, is marketed by Crouch Motors, Ltd., of Bishop Street, Coventry. The transmission is similar in both types, viz., by chain from the engine and gearbox unit to the back axle. In the four-wheeler the rear chain sprocket is mounted on a live axle of novel design. Whilst on the ordinary type of live axle the outer casing is fixed and the axle shafts and differential gear rotate within this casing, in the Crouch the outer casing revolves, being carried in ball bearings on the spring extremities. The inner shafts rotate solidly with the outer casing when proceeding in a straight line, but when turning corners the differential, mounted inside the casing, comes into action. The inner shafts and the differential are carried in plain bearings in the outer casing, as their duties are light.

The inverted semi elliptical springs are relieved of torque stresses by means of a triangulated member, the forward end of which works in a ball-and-socket joint fixed to the engine and gearbox unit. The thrust of the wheels is transmitted through the springs to the frame, no radius rods being fitted. The engine and gearbox are mounted in one unit, and the cylinders, with a bore of 80 mm. and a stroke of 90 mm., are mounted at an angle to one another on the crankcase. The valves are enclosed by tight-fitting plates, and the water circulation is effected by means of a pump through a radiator set at the front of the vehicle.

Adjustable tappets are provided, and the crankshaft runs on ball bearings, whilst the internal cone clutch is lined with thermoid; the gearbox is bolted to the crank chamber, and three speeds and a reverse, which are operated through a straight-through quadrant, are provided, the reverse being brought into engagement by means of a pedal. There are three foot-pedals—the left the clutch, the centre the reverse, and the right the foot-brake. The engine control is by means of two levers mounted on the dash operating the carburetter through Bowden cables, ignition is by an Eisemann magneto with fixed firing point, and steering is effected through a rack and

pinion, whilst the frame is of armoured wood, slightly upswept at the rear. The front springs are full elliptics, the upper members being bolted to the forward cross-member.

In the course of a short run in the neighbourhood of Coventry, we found that, with two heavy passengers, the machine held the road well and smoothly, whilst the engine power was ample, the gear changes were easily effected, and the rack-and-pinion steering facile in operation. Up Stoneleigh Hill, the Crouch had plenty of power in hand on second speed, and down the same declivity the foot-brake held the machine gently but firmly. This cyclecar is capable of a good turn of speed without excessive vibration from the engine, and the seating accommodation is broad with ample leg room.

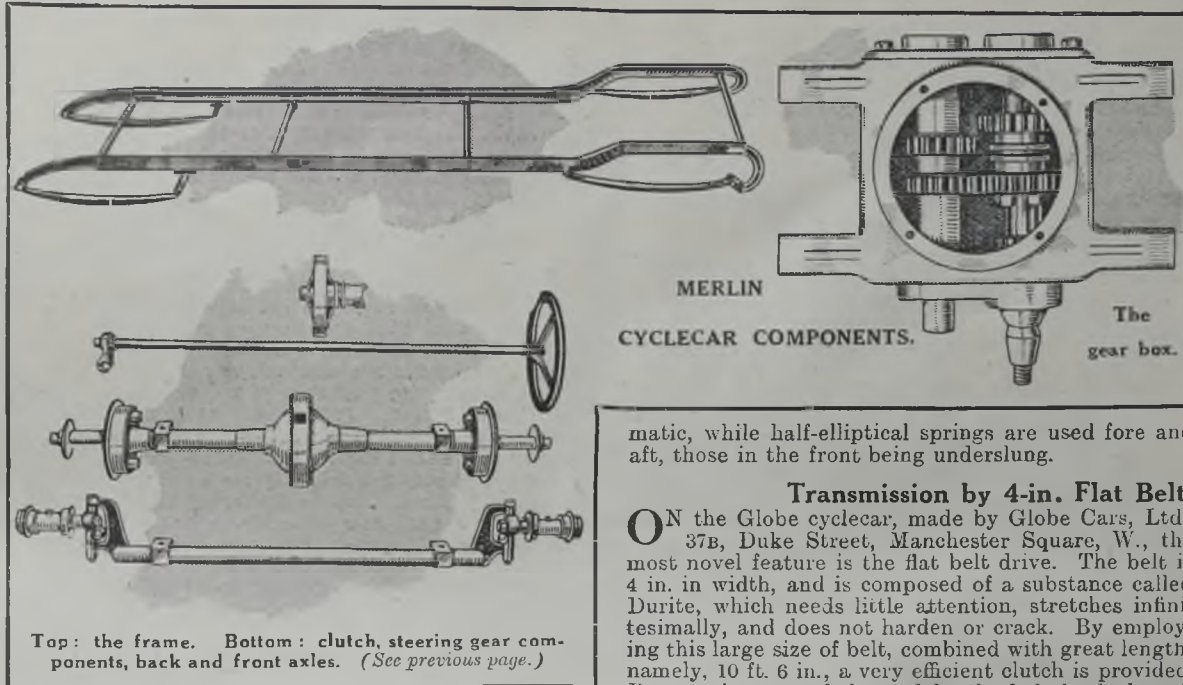
The Merlin Cyclecar Components.

(Illustrations appear on next page.)

WE have received a number of letters from cyclecar enthusiasts who are building their own machines, and their great difficulty appears to be in obtaining such parts as chassis frames, axles, etc. The New Merlin Cycle Co., Ltd., of Gough Road, Birmingham, are marketing a number of the components required. The chassis frame has channel steel sides, with tubular cross-members, springs and spring shackles being included. The standard dimensions are 7 ft. 6 in. wheelbase and 3 ft. 10 in. track, but these can be varied if desired. Front and back axles are of the tubular type. The transmission includes chain drive, differential and a plate clutch, with a gearbox giving three speeds and reverse. The steering gear is of the rack-and-pinion type. The components are suitable for a 9 h.p. engine.

A Miniature Car for £80.

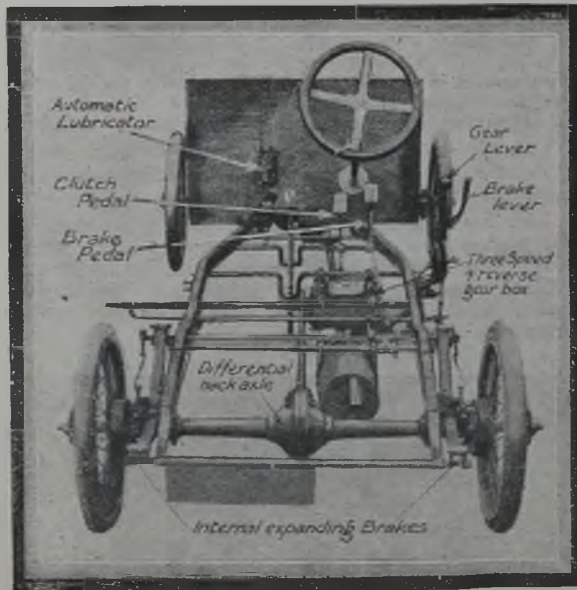
A new cyclecar, following car practice, which we understand will cost complete about £80, will be described in detail shortly. It will be named the "All-British Ford," but has no connection with the American Ford car, being named after the designer. It has a 90-degree twin fan-cooled J.A.P. engine, four-speed gearbox, shaft drive, leather-to-metal clutch, and internal-expanding brakes.



Top: the frame. Bottom: clutch, steering gear components, back and front axles. (See previous page.)

The Woodrow Cyclecar.

A NEW cyclecar, the design of which follows orthodox car practice in most of its details, has recently been produced by J. Woodrow and Co., of Wellington Road North, Stockport. The power plant consists of an 8 h.p. air-cooled J.A.P. engine with side-by-side valves, fed by an automatic carburettor of the same make. Through a metal-to-metal plate clutch the power is conveyed by chain to a three-speed gear-box, which also gives a reverse, while another chain transmits the drive to the differential back axle. The frame is constructed of channel steel, and the steering, which is controlled by a wheel of large diameter, is effected by a rack and pinion. Lubrication is auto-

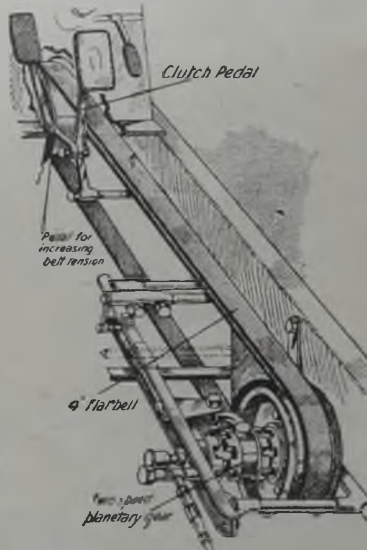


Chassis of the new chain-driven Woodrow cyclecar.

matic, while half-elliptical springs are used fore and aft, those in the front being underslung.

Transmission by 4-in. Flat Belt.

ON the Globe cyclecar, made by Globe Cars, Ltd., 37B, Duke Street, Manchester Square, W., the most novel feature is the flat belt drive. The belt is 4 in. in width, and is composed of a substance called Durite, which needs little attention, stretches infinitesimally, and does not harden or crack. By employing this large size of belt, combined with great length, namely, 10 ft. 6 in., a very efficient clutch is provided. By pressing one of the pedals, the belt is slackened, and the drive is taken up sweetly and quietly by



The flat belt drive on the Globe.

gradually releasing the foot pressure. No ordinary clutch has such large surfaces, and although the driver may indulge in what would appear to be an excess of clutch slipping, no ill effect is apparent. The belt pulleys, both on the crankshaft and the countershaft, are of ample size. To slacken the belt, the countershaft and back axle, which are coupled together, are moved bodily towards the engine by one pedal,

while another produces the opposite effect, thereby increasing the belt tension in case of slip. On the countershaft, incorporated in the belt pulley itself, is a two-speed gear of the epicyclic type, operated by dog clutches, while a reverse is also provided. From the countershaft the drive is transmitted to one wheel by an enclosed chain.

The engine is a single-cylinder 8 h.p. Aster, water-cooled, while a Mea magneto is fitted as standard. The frame is constructed of ash, armoured throughout its entire length, and is isolated from road shocks by four semi-elliptical springs of generous length. Steering is direct by wheel, while lubrication is automatic. The price complete with hood, screen, lamps, tools, and speedometer, is 145 guineas, or, without these accessories, 125 guineas.

THE CYCLECAR WORLD (contd.).

The enthusiastic cyclecarist enjoys tinkering with his machine.

An enterprising builder in North London is putting up houses each of which contains a cyclecar shed.

A very interesting article appears in this week's "Motor Cycling" on the work of the road scouts and guides, with interviews and illustrations.

On and after the 20th December, the headquarters of the Roads Improvement Association will be transferred to 15, Dartmouth Street, Westminster, S.W.

Two interesting articles in "The Motor" this week deal with correct tyre inflation and brake design and operation. They will interest many cyclecarists.

The cyclecarist reputed to wear a boxing-glove for starting up his engine, referred to in our last issue, was recognized at once by a number of other enthusiasts. Fear got on the 'phone to him. The idea is really a padded shield on the starting handle.

If machines with a chassis weight of less than 6 cwt., built on miniature motorcar lines, prove themselves successful, the cyclecar designers will have taught motorcar manufacturers something which they have hitherto held to be impossible.—Mr. Alfred Bednell in an interview this week.

The debate on "Cyclecar or Sidecar?" at a meeting of the Streatham and District M.C.C., held on Friday evening last, only attracted a handful of members. The discussion was very desultory, but in effect it was resolved that the cyclecar and the sidecar would have equal popularity in the future.

A Prediction Fulfilled.

"It is our idea that a considerable demand will arise for a type of machine as simple to handle and as economical to run as the motor-bicycle, but providing the comfort and safety of the motorcar."

The foregoing expression of opinion prefaced the article that outlined the great possibilities for the type of vehicle now termed a "cyclecar" which appeared in "Motor Cycling" of 6th December, 1910. In two years our forecast has been absolutely justified.

Handy Pocket Diary.

A diary is a useful publication. "Motor Cycling Diary" for 1913, just published, will be found very handy by cyclecarists, and is of a size for the waistcoat pocket. It includes memorandum pages for recording oil and petrol consumption, mileage, etc. Particulars of the gradients of famous test hills, tables of cylinders and bore-and-stroke ratios, and useful formulæ are included. The diary is indexed, and a useful feature is an indexed "Where Is It?" It costs more than 6d. to produce, but is sold for 6d. as an advertisement of the paper. It is strongly bound in leather, and can be obtained from the offices of "Motor Cycling," 7-15, Rosebery Avenue, London, E.C., for the small sum of 7d., post free.

The New Spelling.

One must get into a humorous frame of mind to appreciate the tragi-comedy which is being enacted in a certain quarter. Up to a week or so ago, "cyclecar" has been spelt as one word by certain motoring journals, each of which poses as "the authority," "the leading journal," and so forth. Then, much to their consternation and not a little to their annoyance THE CYCLECAR appeared. Here was a pretty kettle of fish! Obviously every time the word "cyclecar" was used it advertised the new journal, and so strenuous efforts had to be made to work up a feeling against employing the term. With a touching regard for the outraged feelings of the individual, we were told that a man who purchased a "runabout" would not like to be called a "cyclecarist." These critics did not tax their ingenuity so far as to suggest what the possessor of a "runabout" would like to be called. Presumably even they hesitated to propose inflicting the term "runaboutist" upon him, but it seems inevitable. Many weird words are now being brought into service to avoid using the word "cyclecar," the latest being the "cycle-runabout," so that now we suppose the user must be designated a "cycle-runaboutist." When the word "cyclecar" is used it is now divided into two words, and the new spelling appears to be seriously affecting the staff, for in one leading article "cyclecar" is spelt both ways, whilst even advertisers are made to submit to this childish fad. "Sidecar," however, is only one word!

They once considered cyclecar a comprehensive word, But when THE CYCLECAR appeared, of course, 'twas quite absurd,

And in polite society it mustn't now be heard!

Tweedle Dee (in two words).

Cyclecars will figure in this year's London to Gloucester and back open trial, on Boxing Day, organized by the North-West London M.C.C. Entries (at 12s. 6d.) can be received up to to-morrow, or at double fees up to next Saturday, and should be forwarded to Mr. H. E. Taylor, 17, Taviton Street, Gordon Square, London, W.C.

OUR FINANCE BUREAU.

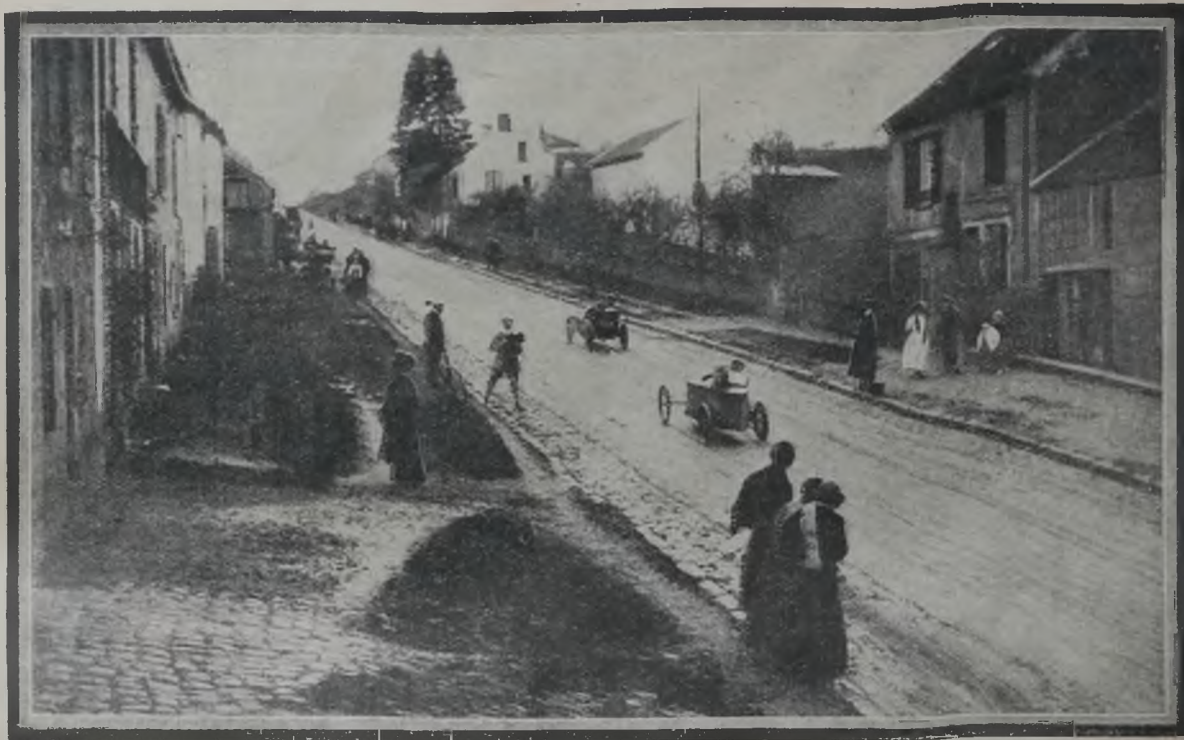
Communications with regard to the following announcements should quote the reference letter and be addressed to The Editor, "The Cyclecar," 7-15, Rosebery Avenue, London, E.C. The object of the bureau is to encourage the development of the new industry, introducing capital where the manufacture of sound ideas justifies. No letters can be forwarded, negotiations being conducted by the Editor.

Ref. D.—Can make arrangements to turn out in quantities a three or four-wheeled vehicle, built on car lines. Capital desired to work the selling side.

Ref. E.—A few thousand pounds can be found to set a sound business in the cyclecar industry on its feet. The concern would have to be, or become, a limited company, and the gentleman desirous of financing it would require to handle the selling organization personally.



Snapped on the road last week. An L.E.C. cyclecar is saluted by an A.A. Scout.



M. Bonville, on the racing twin Bedelia, overtaking M. Bourbeau, driving the single-cylinder Bedelia, in the hill-climb at Gometz-la-Chatel, near Paris, on Sunday last.

Daring Driving at the Gometz Hill-climb.

The Auto-Cycle Club de France held an international motorcycle hill-climb at Gometz-la-Chatel last Sunday. Only three cyclecars were entered, but as the Automobilette did not arrive, the single and twin classes were won by Bedelias. The single-cylinder model created a very favourable impression by its performance, for the engine throbbed regularly the whole way up the long ascent, and never seemed to get hot. A big racing Bedelia was much in evidence during the meeting. Its intrepid driver was turning and twisting the long, narrow four-wheeler in and out of the traffic in a most astonishing manner. Nor did he trouble to confine his trick driving to the road. Often he would turn round, drive up a foot-high kerb, run along the bank, and bump down again to the main road preparatory to setting out for a speed trial up or down the hill. The exhibition of driving was most skilful, if somewhat alarming.

Forthcoming Trials.

There are now 27 cyclecar entries for the London-Exeter 24 hour run. The entries additional to those given in our list issue are three G.W.K.s (the Rev. E. P. Greenhill and Messrs. V. Wilberforce and Aven), two Morgans (Messrs. Stewart and Jones), a G.N. (Mr. G. N. Higgs), a Matchless (Mr. H. A. Collier), a Humberette (Mr. H. E. Williams), and an Arden (Mr. Humphries).

There are 12 entries for the Sutton Coldfield cyclecar trial next Saturday, made up of two Rollos, two Morgans, two Perys, and one each Matchless, A.-C., Kendal, P.D.A., Humberette and G.W.K. Entries close to-morrow.

We are receiving many inquiries from South Africa, Australia, India and other Colonies asking for advice on choice of cyclecars for use in these countries.

Comfort on the G.W.K.

Occupying the passenger seat in the Herts. County trial we had an excellent demonstration of the comfort afforded by the disposition of the seating on the G.W.K. The engine being placed behind the seats, the space under the bonnet, in the front of which is the radiator, is utilized for leg room—very nice and cosy in this cold weather, too. The high dash and side doors also contribute to the protection of driver and passenger, and we found little need for a windscreen.

The "Cyclecar" Trials.

Reports upon special trial runs by the staff of THE CYCLECAR will commence early in the new year. Makers are invited to submit machines for an impartial trial and report. Considerations of space prevent this feature being started this week.

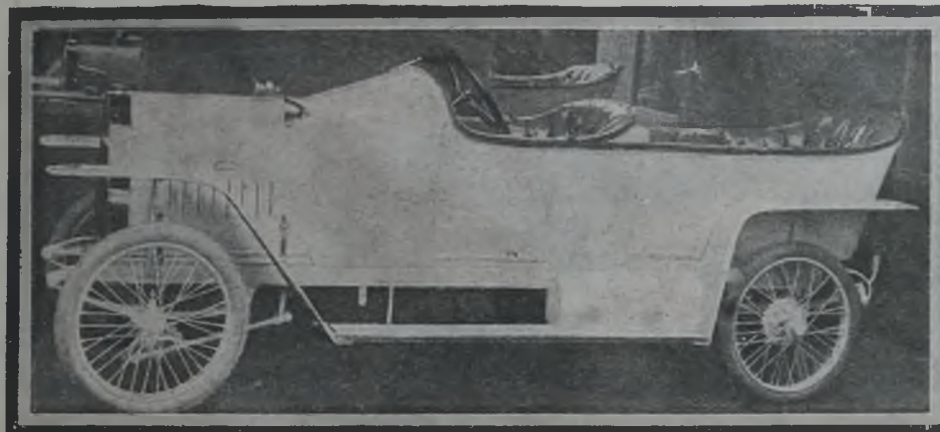
A Royal Warrant has just been issued appointing Messrs. A. W. Gamage, Ltd., sports and athletic outfitters to Her Majesty the Queen.

It is noteworthy that in the Herts. County A.C. trial, on Saturday last, the sidecars lost more marks than the cyclecars. The first sidecar combination to finish had 25 less marks than the cyclecar placed fourth.

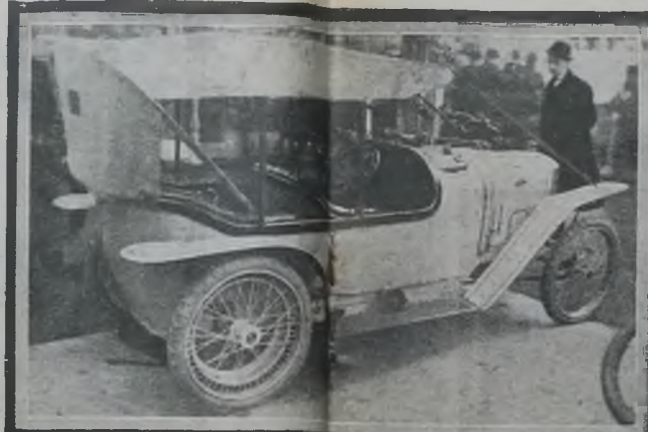
An interesting case at Croydon on Saturday was the prosecution of a motorist for giving warning of a police trap to another driver. The case was adjourned for a week, but the decision will be awaited with interest.

It is probable that the English definition of a cyclecar will be adopted by the International Federation of motorcycle clubs which met at the Automobile Club of France last Saturday to discuss an international trial in which the cyclecar is almost certain to figure.

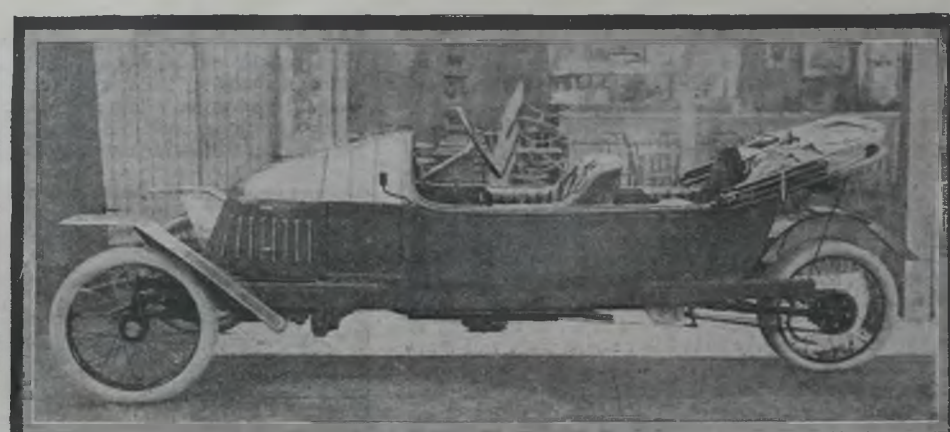
THREE ENTIRELY NEW TANDEM-SEATED FRENCH CYCLECARS. EXHIBITED AT THE PETIT SALON, PARIS.



La Fleche, a new French friction-driven cyclecar with lever-starting arrangement operated from front seat. Friction drive is adopted on this machine.



La Roulette, a double-belt driven tandem cyclecar, fitted with a water-cooled V-twin engine. Brake, clutch and differential gear are fitted on the countershaft.



La Torpille, a new and extremely interesting tandem-seated three-wheeler, with shaft and chain drive. The gear and clutch are carried in separate cases.

THE tandem-seated cyclecar is evidently to be in great favour next year in France, for at the Petit Salon, Paris, which is a kind of overflow exhibition for those who could not secure space at the Grand Palais, three new tandem-seated French cyclecars are exhibited. They are the three-wheeled La Roulette and La Fleche and the three-wheeled La Torpille. The A.-C. tricar is shown both as a pleasure vehicle and also as a commercial model fitted with Sankey detachable wheels, whilst the 1913 model Baby vioturette is shown for the first time, and incorporates a number of minor improvements. There is also a new small car called the M.A.P. It is fitted with a four-cylinder, water-cooled engine, cone clutch, and cardan-shaft drive to the back wheels.

It must also be remembered that, besides the cyclecars shown at the Petit Salon and the Grand Palais (the latter were described last week), there are a number of other machines which are not shown at either. It is evident, however, that the interest in the movement is very real, and, what is more, the Frenchmen even more than ourselves seem to be realizing the advantages of the lightest, cheapest and simplest type of machine. As we stated in our opening remarks, tandem seating is very popular, whilst there are also signs of increased attention being paid to water-cooling. In every other direction opinions are divided as to what system provides the best compromise.

La Fleche.

Friction drive and starting from the seat are the outstanding features of the La Fleche, a new cyclecar which has just been brought out by Guders Jack, 16, Avenue Perier Asine, Seine. Here again we find tandem seating, the driver being seated in front of the passenger. A single-cylinder 8 h.p. water-cooled Buchet engine is fitted, and drives through a shaft to the friction wheel. The leather-faced friction disc is connected to a single chain, which drives the rear wheel. The chassis is of channel steel, and appears to be solidly constructed. The hand-starting lever is fitted outside the body, whilst the gear-change lever is inside. Half elliptic springs are used for the front wheels, whilst three-quarter elliptics are used behind. The machine appears to be well sprung, and the body is quite comfortable. A good point is the fact that the whole of the transmission system is protected by a metal case, which should

prevent the discs from being injured by stones or water. The price of the machine is £128, and the weight 300 kilo. It is hoped to manufacture 300 of these machines in 1913, which number includes the commercial model, in which the rear seat is converted into a compartment for luggage or samples. In either model the fore part of the machine is unchanged, the petrol tank in the dash and the disposition of the engine, radiator and front seat following standard practice.

La Torpille.

The Torpille is a three-wheeler of exceptional length. The back wheel is shod with heavy double-driving tyres, and the petrol tank is carried over it. The frame is of pressed steel, whilst the front part of the machine is carried on inverted three-quarter elliptic springs. A water-cooled four or one-cylinder engine can be fitted, the radiator being set behind the engine, the cooling system adopted thus being the thermo-syphon. The price is about £135 for the four-cylinder model and about £100 for the single-cylinder machine. The transmission is distinctly interesting. A three-speed and reverse gearbox is

fitted to the rear of the engine, and drives by shaft to the clutch casing, which accommodates a bevel drive from the cross shaft of which the final drive is taken to the rear wheel by chain. The carriage work on this machine is certainly above the average. The driver sits in front. The steering system follows car practice of worm and segment. The body is widened midway in order that toolboxes may be placed on each side of the driver's seat. Behind this the boat-shaped body tapers to a seat in the rear. The speed of the machine is said to be about 50 m.p.h., which is quite good for the tiny four-cylinder 8 h.p. engine. The machine is shown by MM. Perrin and Co., a Annonay (Ardèche).

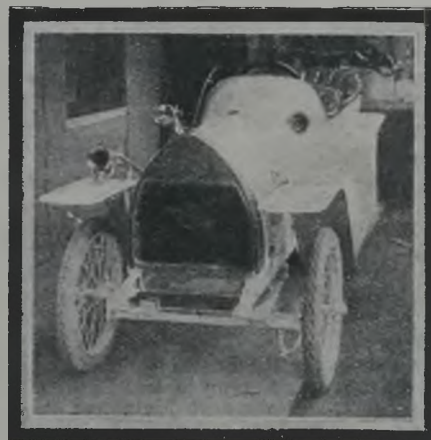
La Roulette.

A very interesting belt-driven cyclecar is La Roulette, made at 46, Rue du Chemin de Fer, Courbevoie (Seine). Here a water-cooled V-type engine, with automatic inlet valves, driving by means of a very substantial chain to a countershaft, where the differential clutch and brake gear are fitted. On either end of this countershaft variable pulleys will be fitted, which will allow double belt drive to be used as the

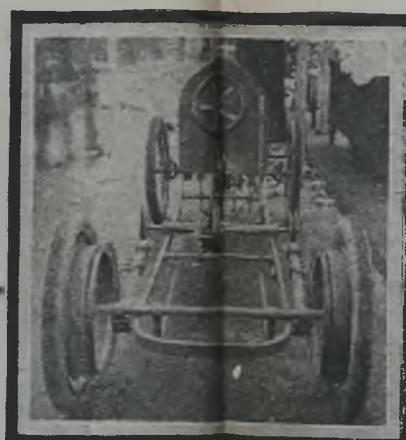
final transmission to the rear wheels. On the machine exhibited solid pulleys were fitted. The chassis is of pressed steel, being downswept behind the engine to allow of a low tandem-seated body being fitted. Quarter-elliptic springs are used to support the rear wheels, the springs being contracted when it is necessary to bring the rear belt pulleys and back axle against the brakes. Full-elliptic springs are used in front, and proper car type of steering gear. The starting handle is geared to a shaft by means of a bevel, from which chain drive is used to the engine shaft, the latter being at right angles to the starting lever. An external flywheel is fitted to the engine, which is fed with mixture from a Longuemare carburetter. A special type of chain-driven magneto is placed behind the crankcase. The total weight of this interesting machine is 5½ cwt., whilst the speed claimed for it is 50 m.p.h. We were informed that a trial machine had been driven about 15,000 miles, and that both the Anzani engine and the rest of the chassis work had emerged successfully from the test. The price is £112. As on La Torpille, the front seat is designed for the driver, a small side door being fitted for his convenience.

A New Cyclecar Engine.

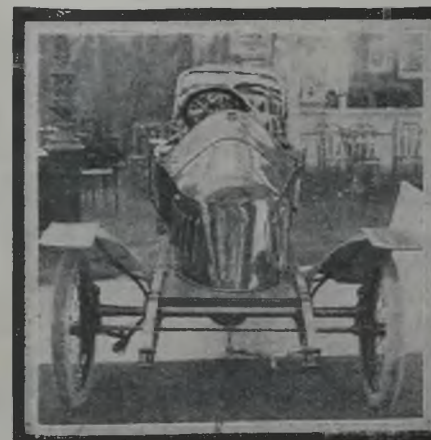
Messrs. J. C. Dalman and Sons, of Birmingham, a firm hitherto well known in the motor trade for cylinder castings and other details in connection with engine construction, are shortly bringing out an air-cooled twin of very promising appearance, which should do good work as a cyclecar unit, being well proportioned for hard work. The cylinders are of 85 mm. by 90 mm. bore and stroke respectively, with a nominal rating of just over 7 h.p.; side-by-side valves of 1½ in. diameter are employed, and we note that sufficient space is allowed in the valve chambers for appreciably improving on their size if so desired, a further point being that the exhaust valve is given 1/8 in. more lift than the inlet; the valves are, however, interchangeable. The cylinders are disposed at an angle of 45 degrees, resulting in a very short inlet pipe, to which the carburetter can be closely fitted, one end of the pipe being attached to the cylinder flange through a split-collar fastening to ensure a gas-tight joint. All the timing mechanism is symmetrically carried, the timing wheels being mounted in a direct line with the exhaust valves, and the rocker arms and bearings are amply proportioned.



Front view of the tandem-seated La Fleche, in which the engine can be started from the front seat by a lever.



Rear view of the chassis of La Roulette, showing how the clutch and differential are carried on the countershaft.



Front view of the tandem-seated three-wheeled La Torpille, which is supplied with either single or four-cylinder engine.

CYCLECARS IN THE HERTS. COUNTY TRIAL.

THE Herts. County A.C. Quarterly Trial was held on Saturday, 14th December, over a circular course, starting and finishing at The Cricketers, St. Albans. The trial was confined to motor-bicycles, sidecar machines and cyclecars. A full illustrated report of the performances of the motor-bicycles and sidecars appears in "Motor Cycling."

There were six cyclecar entries—three G.W.K.s, one Morgan, one Humberette, and one Gordon. The Gordon was a non-starter, but the other five got away safely to time. The weather was overcast and the roads were very heavy, and for the greater part of the course the competitors were buffeted by quite a hurricane of wind. Right-angled corners and treacherous road surfaces were the chief features of the route. It is a pity that the entries were not more representative.

Passing the first control, Sundon Hill was climbed successfully by all the machines from a standing start. This hill has a maximum gradient of about 1 in 6, and the surface was rough. The competitors left the winding lanes after a time, and passed through Dunstable, afterwards again driving into narrow tracks, covered with grease and abounding in corners. Before they reached the famous Aston Hill, they passed through the secret check, all except one machine being within the time allowed, Mr. W. Cooper (Humberette) being penalized 15 marks. The surface of Aston Hill was in fair condition, but at the start it was very greasy. On this hill the Morgan made fastest time—1 min. 34½ sec.—followed by the three G.W.K.s, driven by Messrs. Wood, Wilberforce and Keiller. The Humberette suffered from a slipping clutch on its first attempt, and failed, but after adjustment it is stated to have climbed satisfactorily. Whiteleaf Hill was the last observed hill before lunch, which was taken at Missenden. The spectators were here afforded a testimony to the powers of slow running of one of the competitors. They reached Missenden some minutes

W. Lambert) being fastest up the hill, and therefore losing most marks. Passing through Boxmoor, Hemel Hempstead, and Markgate, the Dunstable control was reached dead on time, and the last non-stop section was entered upon. The drivers had not proceeded far along the main road before they had to attempt the ascent of a hill, which was promptly dubbed Porlock,



The Morgan in the slow climb in the Herts. County A.C. Reliability Trial on Saturday.



Mr. J. T. Wood, on the G.W.K., followed by Mr. Keiller on another G.W.K., strike a patch of new metal at the foot of Dunstable Cutting, in the Herts. County A.C. Trial on Saturday.

before their correct time, and as this was a non-stop section they could not stop, but had to proceed at their slowest pace, about 1 m.p.h. In fact, so slow was it, that the checker sent a man to walk beside them to see that they were moving at all!

After lunch the way lay through Amersham and Chesham to Maple Hill, where the slow climb was held. In this class Mr. J. T. Wood's G.W.K. was the slowest, followed by the machines driven by Messrs. C. M. Keiller and V. Wilberforce, the Morgan (Mr. A.

but the correct name, we believe, is Shaul End. The surface was thick grease, the steepest part was on a nairpin corner, and the road was narrow. All the cyclecars made successful climbs, with the back wheels whizzing madly in an attempt to grip the road. The only incident on the way home was that all the cyclecars lost their way through a misplaced arrow, and went through Luton, and it is evidence of their speed that none lost marks at the final control, which was situated at St. Albans. There were few incidents in the run. The Morgan had one puncture in the morning, and the Humberette retired at

Aston Hill from a number of troubles.

Marks were deducted for unpunctuality at checks, and awarded for the two hill-climbs (fast and slow), non-stops and performances on observed hills (Sundon, Whiteleaf, Rectory, and Shaul End). Mr. J. T. Wood (G.W.K.) obtained 189 marks and gold medal; Mr. C. M. Keiller was second with 177 and silver medal; Mr. A. W. Lambert third with 176 and bronze medal. Mr. V. Wilberforce (G.W.K.) finished fourth with 169 marks. Sidecar machines did not fare so well.

The Cyclecar

Wednesdays—1d.

Conducted by EDMUND DANGERFIELD.

TEMPLE PRESS LIMITED

Proprietors of "THE MOTOR CYCLING,"
"THE MOTOR," &c.

7, 9, 11, 13, 15, Rosebery Avenue,
LONDON, E.C.

Telephone No. 5292 Holborn (four lines).
Telegrams—"Pressimus, Holb., London."

MIDLAND OFFICES:

Stephenson Chambers,
39, New Street, Birmingham.
Telephone No. 1839 Birmingham.
Telegrams—"Presswork, Birmingham."

NORTHERN OFFICES:

196, Deansgate, Manchester.
Telephone—Central 2467.
Telegrams—"Presswork, Manchester."

Some Features Next Week...

ON SALE TUESDAY

(OWING TO CHRISTMAS HOLIDAYS).

- "Correcting a Skid," by an Expert.
- "Cheaper Housing for the Cyclecar," with Suggested Plans.
- "A Christmas Experience," a Thrilling Holiday Ride.
- "Three Wheels or Four?" a Practical Exposition of the Advantages and Disadvantages of Both Types.

NOTICES.

Letters.

EDITORIAL Communications should be addressed to The Editor, "The Cyclecar," 7, 9, 11, 13 and 15, Rosebery Avenue, London, E.C.

Letters relating to ADVERTISEMENT and PUBLISHING Departments should be addressed to The Manager.

Press Times.

IMPORTANT LATE NEWS and Photographs can be accepted up to first post Monday morning for insertion in the following Wednesday's issue.

ADVERTISEMENT COPY, Blocks, &c., should come to hand by Wednesday morning to ensure careful attention and allow time to submit proofs, except when an earlier time is specified.

Return of MSS., &c.

Drawings, Photographs and MSS. not suitable for publication will be returned if sufficient stamps are enclosed for this purpose, but the Publishers cannot hold themselves responsible for the safe keeping or return of contributions.

Copyright.

All Engravings, Photographs, Portraits, Drawings, Articles or other Contributions must be submitted, and will only be accepted, upon the express condition that the copyright therein becomes the property of the publishers upon acceptance by acknowledgment or publication, and may not be republished or reproduced without their permission.

Advertisements of Cyclecars for Sale, new or second-hand, Sundry Announcements, and Rates for Advertisements, will be found amongst the end pages.

Topics of the Week

IT is acknowledged generally that it is only by subjecting cyclecars to severe and official tests that improvements can be effected and weaknesses discovered. For this reason trials possess very great value, both to the manufacturer, who learns the lessons taught him, and to the public, who are enabled thereby to estimate the relative merits of different types of machines. The combination of these two forces directs development and design. On the other hand, the cyclecar is in its infancy. It is like a vigorous baby, yet must be nursed and tended with great care lest in its efforts to develop too quickly it should meet with disaster. For this reason, there are many who consider that the cyclecar has not yet reached a stage at which it is capable of facing such trials as are proposed. We are not in agreement with this point of view, because, although many of the new machines are at present in an experimental stage, there are, on the other hand, cyclecars which have already performed creditably in trials, and if some have done well in the past there is no reason why others should not do the same.

The Value of Trials.

* * *

THE most important tests of reliability would be a road race for standard cyclecars, on lines that we have previously discussed, and a six or ten days touring test such as that organized by the Auto-Cycle Union this year, in which several cyclecars competed. A Scottish six days reliability trial has been suggested, but one road trial of this description will be as much as the cyclecar makers will care to enter for. No doubt the A.-C.U. will organize a six days trial—possibly extended to ten days—as in former years. It will, however, be one in which motor-bicycles will compete, and there may be some endeavour to put sidecar combinations in competition with cyclecars. This is quite unnecessary, for the motor-bicycle and sidecar appeal to a type of rider quite distinct from the possible owner of a cyclecar. A separate trial for cyclecars only, therefore, has everything to recommend it except the very heavy expense of separate organization. With regard to the proposed race for standard cyclecars, we suggest that the Auto-Cycle Union should at once form a cyclecar sub-committee to discuss the matter. At present, the majority of the members on the committee are motorcycle enthusiasts who are only distantly interested in cyclecars.

The Two Most Important Tests.

TWO interesting letters in our correspondence columns this week take opposite views. One reader, "R.A.P.," protests against the development of the "cheap, light, fast machine, built on cycle lines"; the other, Mr. G. T. Bennett, finds his ideal in the machine that most closely follows motorcycle practice. Both correspondents are right, viewed from certain standpoints. So far as the cyclecar following motorcar practice is concerned, there will undoubtedly be a great demand for such a type of machine, but if the choice went no further down the scale, or stopped at the light car, many thousands of possible devotees of the new motoring would be excluded. To those who can afford its higher first cost and more expensive upkeep, the miniature-car type will certainly appeal; but the number who will prefer the simpler type of cyclecar, because of its easy handling and economical running, will be greater still. Apart altogether from the question of following either motorcycle or motorcar practice, why should not distinctive lines be struck out? After all, the majority of purchasers, not having had previous experience of motorcycles or motorcars, will not trouble themselves whether the machine of their choice follows the one or the other.

Motorcar or Motorcycle Practice?

SPRING SUSPENSION.

A Comparison of the Various Systems Employed in Cyclecar Practice.

BY G. H. CUTBUSH, A.M.I.A.E.

THE suspension of the cyclecar is a very important point, for the popularity of the vehicle must depend, to a large extent, upon the greater comfort it offers to both driver and passenger than, say, the motorcycle and sidecar. Also the many who have no previous experience of motorcycles or small cars, but who will be interested in the new vehicle, with its low cost and upkeep, will expect a very high degree of comfort, and the vibration bogey, which has done the motorcycle so much harm, must not be given an excuse to show itself in the new development.

When power and speed in relation to weight are high, vibration requires very careful guarding against, and some interesting forms of spring suspension are likely to be evolved. Needless to say, the

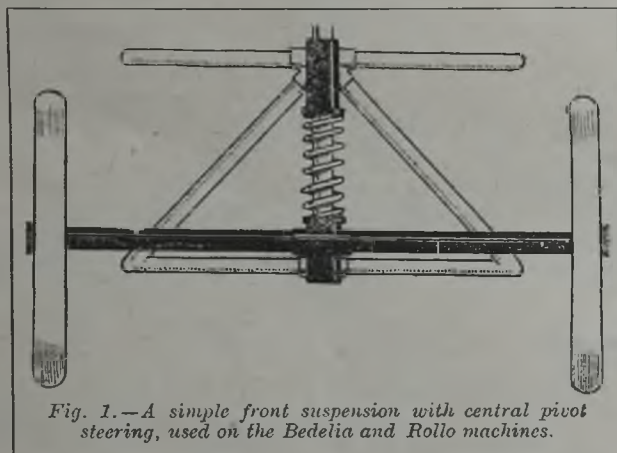


Fig. 1.—A simple front suspension with central pivot steering, used on the Bedelia and Rollo machines.

springing of but part of the frame, as in the motorcycle, cannot be tolerated with the multi-wheeler, and the occupants must be insulated from the shocks transmitted from all the wheels.

Springs used on motor vehicles are either of the coil or leaf types, the latter being the more popular. True, pneumatic suspension has been experimented with, but, so far, its practical application has been limited, although the principle is frequently used in connection with leaf springs to deaden the excessive action of the latter.

The design of a suitable spring for motor vehicles is no simple matter, for the road shocks are so closely recurring that the spring is always in action, and before it recovers from one wheel movement it has to accommodate itself to another. If the spring be too free, it can be understood that it will be maintained in a constant state of oscillation, which may cause nearly as much annoyance to the passengers as the vibration from an unsprung frame. The coil spring is peculiarly liable to oscillation, because it is so entirely free, possessing no internal friction to act as a damper on its movements. The leaf spring, on the other hand, composed of a number of blades of spring

steel superimposed, naturally has considerable friction, for, as the spring moves, each blade has to slide on its neighbours, and the friction produced prevents the rebound from being anything like so great as with a spiral spring. If a single shock be transmitted to a spiral spring and to a leaf spring, motion of the former will continue long after the latter has come to rest; the coil spring, in fact, cannot absorb vibration, but merely changes the length and intensity of the shocks. For this reason a spiral or coil spring, if it is used at all, must be so applied that friction is introduced. If enclosed, we can make the clearance between spring and case small enough for friction to be produced, or the case may be packed with grease. In some cases the spring encircles a pivot (see Fig. 1, which represents diagrammatically the Bedelia front suspension), and in this case the thrust of the sliding sleeve up and down the pivot will produce enough friction to damp the action of the spring.

Spiral springs can be used in conjunction with leaf springs, as they respond more quickly to small shocks than the latter, but even here care is necessary, and a species of sickness can be caused by the roll produced by an unsuitable combination of leaf and spiral spring, which is distinctly unpleasant.

The real function of the spring is to maintain the body of the car at its normal level, irrespective of road inequalities; but this ideal being impossible of attainment, we seek to change the rapid movements of the wheels into gradual and easy movements of the frame. Ideally, each wheel should be sprung independently of the others, so that the bump encountered by one wheel only would not affect any but that wheel. This, however, is more important as regards the front

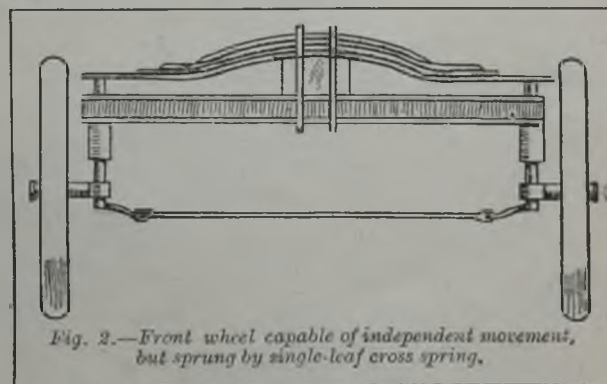


Fig. 2.—Front wheel capable of independent movement, but sprung by single-leaf cross spring.

wheels than the back, for there is much difference between the vibration caused by pushing a wheel over an uneven surface and by pulling it. Hence we find most cyclecar designers endeavouring to secure a very freely-moving front axle, as it is from that axle that most of the vibration arises, and, as already mentioned, the light frame of a cyclecar is very easily put into a state of vibration, or, to use an expressive colloquialism, into a "dither."

SPRING SUSPENSION (contd.).

If we consider front springing systems first, we may as well start with the simplest, and this is certainly the Bedelia design, where the front axle moves about a central pivot, springs on which convey the load from frame to axle. This arrangement is simple and reasonably effective, the spiral spring being well if not rather too much damped by the binding action of the sliding portions when road inequalities exercise a thrust on the front wheels. Centre pivot steering is, however, not popular, and those who have followed Bedelia lines have mostly departed from them in this detail. The spiral spring may, however, be used with the more usual steering systems with its pivot to each wheel. In this case, each wheel pivot can slide as well as turn in its guide, and, as shown in Fig. 3, spiral springs can be introduced between frame and wheel. Here we get each wheel moving independently, but this end can also be attained as shown in Fig. 2, where, instead of a spiral spring for each wheel, a semi-elliptic transverse spring bears upon the upper end of each steering pivot. This arrangement is neater and stronger than the other, and has been used with considerable success. An objection to the system is that a strain on the tie-rod connecting the centres is difficult to avoid, while wear in the sliding portions is often excessive, as there is a considerable thrust on the surfaces, which are difficult to protect from mud and dust.

The transverse spring is, however, very popular for all light vehicles for the free movement it gives to the front axle. A type that has been tried is that shown in Fig. 4, where the spring is pivoted to the frame at its centre, and connected directly to the axle at one end, and by a shackle at the other. This construction was abandoned, however, for clearly there must be a lateral movement of the axle in relation to the frame when the spring is flexed, while the pivot connection leaves the frame liable to roll. Much better is the arrangement shown in Fig. 5, where the spring is shackled to the axle at each end, and is firmly clipped to the frame. Here the axle can rock freely without communicating its motion to the frame, while

the steering connections are unaffected. Of course, both in Figs. 4 and 5 radius rods have to be used to convey the push of the frame to the axle, as otherwise a serious stress would be thrown upon the spring and the shackles. The clips, indeed, might slip on the spring or on the frame member, while the shackles would have to be extremely heavy. Radius rods from the side frames to each end of the axle are therefore used in order to leave the spring perfectly free for its own duties. These radius rods are, however, difficult to arrange so that they allow absolutely free movement to the axle, and, in many cases, they have been found to restrict the action of the springs, so that, at some speeds, considerable vibration was experienced. However, some makers have adapted them to cyclecar requirements with every apparent success, and

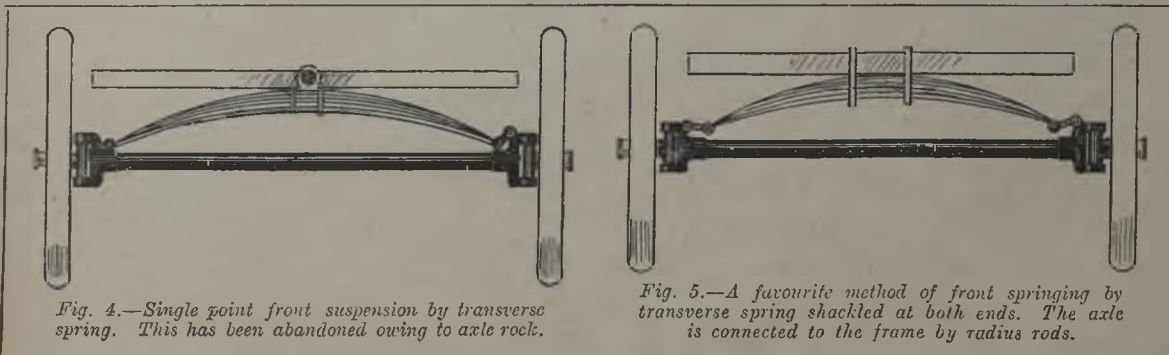
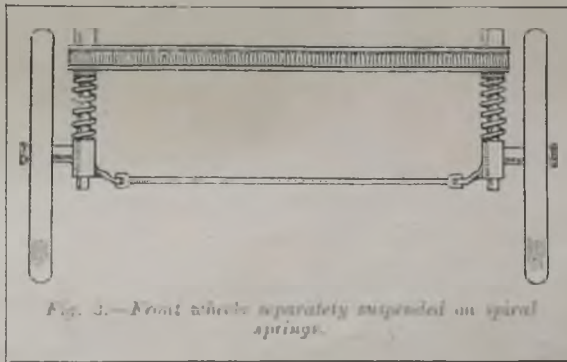
the Humberette, which is one of the best-tested of the new designs, is so fitted.

It may be asked why transverse and longitudinal springs are used together in the same vehicle, and the answer to this is that three-point suspension is thereby secured. We all know that there are three planes in which movement can take place, and to locate any point three dimensions are necessary. Three points

are the least with which we can hold an object to resist motion in these planes, and while we may use more, they will only serve to produce extra rigidity. Now a cyclecar frame must not be excessively rigid, else it will be liable to fracture, and, to secure a certain amount of flexibility, it must be connected at as few points as possible. Hence the value of three-point suspension which permits of the maximum flexibility consistent with exact location.

The question arises, however, whether the single point should be at the front or back. So far in cyclecar design, the single point has invariably been placed at the front, but, in view of the difficulties which radius rods and the like introduce, we may find that the cross-spring will in time be relegated to the back, as it has been in the case of one of the most original of British cars. However, that is a matter very much open to discussion.

A type of spring very suitable for rear axles is the quarter-elliptic of the type shown in Fig. 6. A spring



SPRING SUSPENSION (contd.).

of this kind is exceedingly flexible and gives an excellent suspension, but is not suited for taking thrust, hence radius rods are generally fitted where this is used. For cyclecar work it is probably superior to the semi-elliptic type of spring which, being connected to the frame at two points, imparts too much rigidity to a light chassis. Better than the semi-elliptic for cyclecar suspension would be the full elliptic, as this, again, is connected to the frame only at one point, but this spring cannot be used to transmit the

drive from the axle to the frame as the front half of a semi-elliptic can if shackled only at the rear.

Altogether quarter elliptical springs, in conjunction with a cross-spring as shown in Fig. 5, give as effective a three-point suspension as can be desired, even if the position of the cross-spring is open to discussion. Several successful types of cyclecar employ this system.

It is usual to spring the frame and body together from the axles, but it can be understood that the fact that the engine and back axle are moving in relation to each other makes for inefficient transmission, while we have to provide for the taking of the drive from the unsprung axle to the sprung frame.

The Premier Co., in their cyclecar, solve this problem in a rather interesting way by springing the front of the frame and not the back, the live axle being directly connected to the frame. The result is an efficient transmission, which, however, is subjected to vibration arising from the rear road wheels. As, however, a simple two-stage chain drive is used

with a two-speed gearbox placed well forward, there may be no practical objection, especially as the body is, in effect, sprung front and rear as it is pivoted forward, and has springs between it and the frame at the rear.

The things to be aimed at in a suspension system are a low centre of gravity and a high point of suspension. Judged from this standpoint, the arrangements

shown in Fig. 1 and Fig. 2 are excellent, while the others are not so good. Stability and comfort are secured by proper attention to the two factors mentioned, and where elliptic springs are used they can

be helped by securing the springs beneath instead of on top of the axle, "underslinging" them, as it is called. The forward suspension of the Rudge is an example of this. Unless good-sized wheels are used, this may result in too little clearance and an undignified appearance, but there is a remedy for this in larger wheels.

The larger the wheel the higher is the point of suspension compared with the centre of gravity, while the large wheel is less affected by holes or bumps in the road. There is, indeed, no reason at all why motorcycle sizes should be used in cyclecar work, and 28 in. or even 30 in. should give better results than the 26 in. wheel every time. True, the tyre would be dearer, but it would last longer, and the smoother running would give ample compensation in any case.

In the matter of appearance, too, the larger wheel is of assistance, for, without materially increasing the weight, the cyclecar is given a more imposing appearance, and if there is one thing the cyclecar designer must avoid it is an absurd appearance.

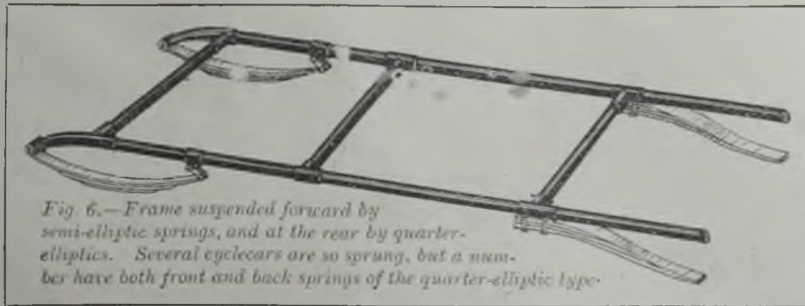


Fig. 6.—Frame suspended forward by semi-elliptic springs, and at the rear by quarter-elliptics. Several cyclecars are so sprung, but a number have both front and back springs of the quarter-elliptic type.



Impossible with a car! A snap at Brooklands. The machine is a Bedelia.

▲30



A wayside adjustment. Holding up the carburettor jet to the light to see if it is clear.

CYCLECAR DEVELOPMENT.

An Epitome of a Lecture given before the Birmingham M.C.C. by
Mr. R. Vernon C. Brook.

HERE are still a few people who will have it that the present cyclecar is but a revival of the early type of runabout. The old Bollee tandem introduced into this country somewhere about 1896, and its prototypes, the Ariel, the Enfield, and the De Dion quad, were clumsy, heavy, uncomfortable, affording no protection from the weather, and, above all, they were slow and costly to run. How can they be compared with the earliest form of real cyclecar? The first real "cyclecar" was the Bedelia, which was introduced into this country from France in the latter part of 1910, but at the same time a light four-wheeled runabout was made by Mr. H. E. Dew. In quick succession came the G.N., Morgan, and others. So the number grew until, at the beginning of the last Show, over 80 different makes were on the market or in embryo. About 36 of these made their appearance at Olympia, 26 having air-cooled engines.



Mr. R. Vernon C. Brook, in the uniform of a Territorial motorcyclist, whose interesting lecture is published below.

present is the storage difficulty, which I have no doubt will be overcome in time.

Having arrived at the conclusion that the cyclecar has come to stay, it is necessary to consider what are the best lines of design to go on in order to suit the public demand and purse. At one time I was of opinion that the belt-driven cyclecar would not survive, but I have lately come to the conclusion that it will, though possibly on slightly-altered lines. This type will be naturally cheaper than the miniature car variety, but perhaps may be more prone to minor troubles, which, however, do not matter.

As regards the frames, makers are still undecided whether to adopt channel steel, angle iron, tubular or

wood as standard. Personally, I think the timber frame with iron fitch plates makes an ideal job, and I should not be at all surprised to see this type of frame used on a much larger scale shortly.

Springing is a serious problem. Semi-elliptical springs back and front appear to be the most popular form adopted, while wire wheels appear to be fitted on the majority of machines. I am quite confident that by the time another show comes round the majority of cyclecars shown will be fitted with water-cooled engines of the twin type, while as time goes on four-cylinders will be standard. Another point to be considered in the design is that of the bodywork. To keep this at a low figure, I consider side doors are not necessary, and even when fitted they are apt to cause a rattle.

The Question of Reverse.

Various points, such as the correct number of wheels, will shortly have to be decided, while the question of a "reverse" is still to be settled. I rather think that the cyclecar pure and simple will get along all right without a reverse, while the miniature car, such as the Perry or Humberette, will be so equipped. As regards steering I am inclined to think that the direct type will eventually become standard, owing to its simplicity combined with efficiency, while the question of seating accommodation will be settled by having the seats placed side by side, but the passenger being slightly to the rear, which enables the body to be kept fairly narrow.

Transmission for some time to come will be by silent chain from engine to countershaft, which countershaft, by the way, might easily be fitted with a large flywheel to give smoother running, while the final drive will be by belts to the back wheels working in conjunction with expanding pulleys. It would be a very simple matter to fit a reverse, taking the form of a crossed belt which would come into action when the back axle was in the most forward position.

To keep the price of the cyclecar low, either belt or friction drive must be used. There are two types of the latter: the friction disc or the new Media

The American Car.

There are sceptics who say that there is no future in the cyclecar, and that it cannot live against American competition, as the 20 h.p. American car can be bought for very little more than what is charged for any cyclecar. It is admitted that there is a good deal in their arguments from the point of view of capital cost, but to my mind that is the least important item to the man of moderate means, to whom the cyclecar will appeal, providing it comes within the limits of £100 to £130. It is running costs that interest him most, and by running costs I mean prices of petrol, tyres, and repairs, and depreciation as shown by the difference between cost price of the cyclecar and that obtainable in the second-hand market. On all these points the cyclecar is bound to beat the cheap American car, particularly in the last item. The cyclecar will appeal to many men simply because it is a handy and neat vehicle without being pretentious or showy; it will be recognized as *the thing*, whereas the American car is looked upon as a sort of cheap imitation of a good English car.

I have been told many times that the twin-cylinder motorcycle with coach-built sidecar will eclipse the cyclecar. Well, I do not think for one moment that it will; in fact, I think the cyclecar will ultimately kill the heavy twin motorcycle. I do not suppose that the sidecar will be altogether ousted; in fact, I think we shall next year probably see more sidecars than ever, but they will be attached to 3½ or 4½ h.p. engine machines, which will always be the cheapest form of locomotion.

Cyclecars will be bought by many doctors and commercial men of all sorts; in fact, there is no end to the scope and market for the cyclecar provided it can be made to sell at £100 or thereabouts, but the one factor that is likely to check the movement at

CYCLECAR DEVELOPMENT (contd.).

cone type. The more expensive models will still keep to car design, and must be carefully made if satisfaction is to be assured. Several makers at present, I find, employ worm drive for the final transmission to the live back axle; whilst others favour the bevel. A friend of mine who has made a number of dynamometer tests on the road wheels of various big cars has found that the losses are only a matter of 1 per cent. to 2 per cent. more in bevel gears as compared with worm gears.

I have already pointed out that the running costs of a cyclecar are the main consideration to the man of moderate means. He knows they will be slightly more than for a motor-bicycle and sidecar, but exactly how much he is not certain. Well, from figures I have obtained from various sources I think it safe to say that the petrol and oil expenses will work out at about twice those for a 3½ h.p. solo machine, or one-third more than for a twin and sidecar. Tyre upkeep should be considerably less than on the sidecar combination.

Finally, I must repeat that I believe the cyclecar will in a very short time become the most popular vehicle on the road, and it now rests with the pioneers to help in the evolution of the perfect cyclecar, and the more pioneers there are, the sooner the perfect car will arrive.

The Discussion.

In the discussion which followed, Mr. F. E. Baker, who occupied the chair, first thanked Mr. Brook for his excellent paper. He considered that the cyclecar movement was likely to cause a revolution in road transit far greater even than the most optimistic mind could contemplate. On the question of gear-driven versus friction and belt-driven machines, he was of opinion that it would be easy to produce gears at a price that would compare favourably with the belt and friction drives. As regards steering, he considered the drum and cable type quite satisfactory, while he thought the single-cylinder engine of big cubic capacity would solve the cyclecar engine proposition, as it was simpler and easier to handle than any other type. Air-cooling was quite efficient up to a certain point, but he refrained from giving an opinion as to whether it would become universal.

Mr. E. W. Winckle considered the 5-6 h.p. single-cylinder quite efficient for cyclecar work, for which he thought there was a big field, while Mr. L. Lewis mentioned that he had once covered five or six miles on the low gear with his air-cooled engine without any trace of overheating, and found his machine capable of tackling all ordinary gradients.

Mr. Bilbe mentioned the names of several old

motorcars of which the lecturer had not spoken, quoting the De Dion, the Vindec, the O.T.A.V., the Chater-Lea carette, and others. He considered the belt or chain drive to one wheel quite satisfactory, but he disagreed with the lecturer on the question of side doors, which he believed were a great convenience. Automatic lubrication, he thought, should become standard.

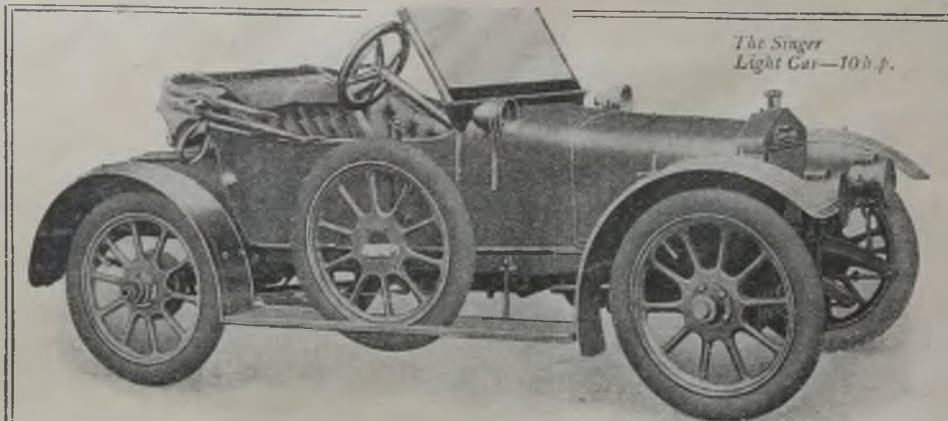
Mr. Chalmers (B.S.A.) did not consider American competition a serious factor, as the depreciation on an American car might be put down at 50 per cent. per annum, whilst depreciation on a British-built cyclecar would not exceed 25 per cent. per annum. Personally, he would prefer to ride in an up-to-date cyclecar of British manufacture than in a pretentious American car.

Mr. H. C. Pickering touched on the problem of storage. He thought that the up-to-date architect who built a moderate-sized house, with a small room for cyclecar storage, would find a very ready demand for his houses. He also considered tyres larger than 650 mm. by 65 mm. were not necessary, as he knew himself of many of this size which had run on a cyclecar for 5000 miles without even the centre row of studs being worn off.

Mr. Brook's Reply.

Mr. Brook, in reply, agreed with Mr. Baker that the cyclecar movement was likely to assume enormous dimensions in the near future. He could not, however, follow Mr. Baker's remarks on the subject of the influence of capital outlay on the production of a gear that would be cheaper than friction or belt drive. He assumed Mr. Baker considered that by laying down a large amount of automatic repetition machinery, it would be possible to produce gears at a very low figure, but he would like to point out that the cost of manufacture of the belt and friction transmission could be reduced in a similar fashion. He also considered single-cylinder engines were not so suitable as twin engines, owing to the necessary vibration, which could only be damped by employing an extra heavy flywheel, which would add considerably to the weight of the chassis. With regard to side doors he was not thinking so much of the question of cost as of the greater satisfaction to be obtained from a body which was solid all through. Mr. Pickering's remarks on the storage question were very interesting, and the author was glad to see that few new houses of a rental of £40 or upwards were being built without garage accommodation, and he had no doubt that builders would shortly turn their attention to the other side of the scale and supply cyclecar accommodation of some sort. As regards tyres, in his experience the larger the tyre the longer the life; at the same time it was interesting to have confirmation of the fact that tyres would last longer on a cyclecar than on a sidecar combination.





SINGER LIGHT-CAR

is the very latest product of the Singer factory.

It's just as new—just as brilliant—just as interesting as "The Cyclecar" and, just as that was first in its sphere of influence, so is the Singer Light-Car first among vehicles of this type.

It has been truly named "the little Car with a lot of luxury," and nothing is wanting to justify that title and assist in the creation of a perfect service.

Its specification is more comprehensive than that of any other similar vehicle, and its price (as illustrated), complete with hood, screen, spare wheel and tyre, suite of 5 lamps, horn, outfit, tools, etc., is **£185**.

If you didn't see it at Olympia you'll do well to write us for fuller details by return.

**SINGER & CO., LTD.,
COVENTRY & LONDON.**



DO NOT FORGET TO MENTION "THE CYCLECAR."

RILEY

Detachable Wire Wheels for Cyclecars.

AMONG those refinements which have now become a practical necessity, Riley Detachable Wire Wheels occupy a leading position on account of the great saving of time, trouble and expense which they effect. What they have done for the car they can do for the cyclecar. A Riley Wheel can be detached and permanently replaced by a spare in less than one minute, and—the automatic locking device is positively infallible. For those who prefer them,

FIXED WIRE WHEELS

can be supplied. We have 16 years experience of the manufacture of wire wheels for motor vehicles, and this experience has culminated in our present models, which we claim to be the most perfect detachable wire wheel on the market.

G.W.K. Cars are fitted with Riley Wheels.

May we send you our
latest Wheel Booklet.

Riley (Coventry), Ltd., City Works, Coventry.



G. N. Higgs

"The first in the field with
the modern Cyclecar."

THE G.N. is undoubtedly one of the smartest, most efficient, and genuine cyclecars on the market—that is why we handle it.

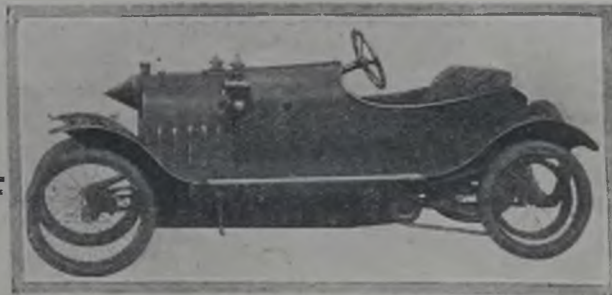
Our workshops are also particularly suited to the repair and overhauling of cyclecars of every description, for the exclusive use of which we have installed a large plant of electrically-driven machinery.



**LEAST TRAFFIC BY
THAMES EMBANKMENT
FROM EVERYWHERE**

**31, VAUXHALL
BRIDGE ROAD,
VICTORIA,
LONDON, S.W.**

Phone: Victoria 1215.



**"The CYCLECAR
of the Year."**

**TRY
IT.**

NOTES & QUERIES

Readers' Problems Investigated by The EDITOR

Readers are asked to write on one side of the paper only, and to use a separate slip for each question.

EXHIBITORS at the recent Show were frequently asked: "Can anyone drive a cyclecar?" The question implies that while, in the public mind, driving a motorcar requires considerable technical knowledge, or at least a course of lessons at a motor school, in the case of the cyclecar no experience of motoring whatever is needed. With, at any rate, the simplest types of cyclecars, the least experienced should have no difficulty in driving after five minutes explanation. At the same time, it would be as well to choose a secluded thoroughfare in which to take the initial drive, and not to proceed straightaway into busy places after taking delivery. The makers, or agents, from whom the machine is purchased will willingly give the devotee of the pastime his or her first lesson. It should be noted that a cyclecar will give very poor service if it is not properly driven and looked after, and a study of "The Cyclecar Manual," which is written specially for those with no technical knowledge, should always be the preliminary before taking delivery. This will answer numerous readers who want to know if cyclecars are suitable for ladies to drive.

NON-FREEZING SOLUTIONS.

At this time of the year, when frost suddenly makes its appearance, cyclecarists would do well to take precautions against cracked cylinders if their engines are water-cooled. A correspondent from Chatham has evidently given the matter consideration, for he asks whether he should put glycerine in the cooling water to prevent it freezing. "Commercial" glycerine mixed with water in the proportion of one to four makes a solution which is proof against 10 degrees of frost. It is advisable, however, to do the mixing before pouring it into the radiator. An alternative is to use alcohol, in the same proportion, and this mixture will remain liquid up to about 20 degrees of frost. In the case of the latter mixture, fresh alcohol must be added from time to time to allow for evaporation, whilst with the glycerine solution the water alone will have to be made up. Many people, however, prefer not to use any of these preventives, but rather to install a small heating apparatus in the cyclecar shed. There are many portable slow-combustion stoves which can be purchased at any accessory house, costing only about 3d. to 6d. a day to work, and with this class of stove there is no danger of petrol fumes being ignited, whilst it needs little attention. It must be remembered that, when the machine is left for any time standing on

the roadway or elsewhere on a frosty day, precautions must be taken by covering the radiator with a rug, otherwise the water jackets may be cracked.

RADIATOR CLEANING.

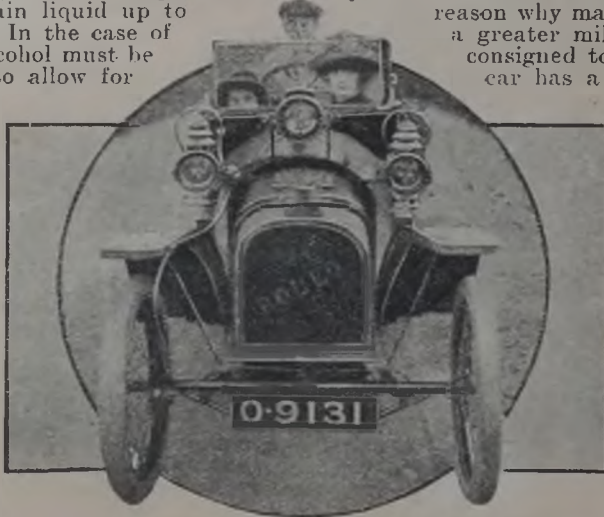
"I AM advised to use caustic soda to clean the tubes of a radiator," writes "A.C." from Norwich.—Unfortunately, "A.C." has been given bad advice, because caustic soda would attack the tubes, and would gradually eat them away, while any varnish with which it came in contact would be spoilt. The correct substance to use, and I can personally recommend it, is ordinary washing soda in the proportion of 1 lb. to each gallon of water.

TYRE SIZES.

A CORRESPONDENT is anxious to know whether 65 mm. tyres are sufficiently large for a cyclecar.—Certainly, if the machine has not a heavy body, 650 mm. by 65 mm. tyres should prove quite satisfactory, but if increased comfort, or rather luxury, is required, some manufacturers make 75 mm. tyres that will fit on 65 mm. rims, and these might be used. It is necessary, however, to know whether the rims are of the car or motor-bicycle type, as some makes of tyres only fit the former. Another useful point to remember is that a 26 in. by 3 in. tyre will generally go on a 650 mm. by 75 mm. rim, the former being slightly larger.

REPAIR BILL.

"W.H." writes to say that he contemplates becoming a cyclecarist, but considers the whole question resolves itself into this:—Is there a cyclecar in existence which has covered, or may reasonably be expected to cover, 50,000 miles before it comes within the definition of a "crock" and the repair bill becomes unduly large?—At the present moment I know of no cyclecar that has run 50,000 miles, but there is no reason why many machines should not cover a greater mileage than that before being consigned to the scrap heap. The cyclecar has a decided advantage over the car, for any replacement needed will only cost a few shillings, belts and tyres excepted, with the happy result that the repair bill will not be very heavy. It is hardly reasonable to expect any motor vehicle, let alone a cyclecar, to do 50,000 miles without any repair bill. The cost of upkeep will not only depend on the quality of the material used in the construction of the machine, but also on the usage to which the owner subjects it. Careful driving means a small repair bill, whilst continual indulgence in speed will bring the cyclecar to an early end.



ROOM ENOUGH FOR THREE ::

How a correspondent, Mr. T. W. Lake, takes out his wife and family on a tandem-seated Rollo.

THOUGHTS AND OPINIONS.

'The Suggestions of To-day may be the Realities of To-morrow.'

CAR OR MOTOR-CYCLE PRACTICE?

Two Letters Offering very Dissimilar Views, on which we Comment in "Topics of the Week."

As an interested reader of your new paper, may I be allowed to offer a word of protest against the prevalent attitude which is being taken with regard to the new cyclecar movement in supporting the cheap, light, fast machine built on cycle lines to the exclusion of the miniature car type? Surely the cyclecar movement originated, not with the idea of evolving a special type of machine, but with the practical purpose of providing cheaper motoring for those unable to afford a full-sized car. Most of the cars built on cycle lines are in an experimental stage, and although at first sight it may seem kind to the manufacturer to induce the public to act as testers to the trade, it is hardly fair to the class of public on whom this burden will fall. The supporters of this type insist upon cheapness, lightness of chassis, and speed. To my mind these three qualities are inconsistent with one another. Unless trouble is courted speed demands strength and stability of chassis. You may cut down weight on a two-wheeler (even then the frames are not always too strong, especially when a sidecar is attached, as witness the Scottish Trials), but a four-wheeler with a two-seated body, comfortable and weatherproof, which is to average 25 m.p.h. over give-and-take roads, must, in my opinion, have a sound, well built chassis, of strength proportional to the work expected of it. If this is to be reduced to the irreducible minimum the design calls for the best materials, the best workmanship, and the best brains, and all this costs money.

It seems to me that, at the present moment, the "new and cheap motoring" is best provided for by firms who, following up their experience as manufacturers of motorcars, have placed before the public light cars built on substantial and well-tested lines, and embodying features which have given satisfaction in larger cars. The true test of cheapness will be found in these miniature cars.

R.A.P.

Steering by the Back Wheels.

I am contemplating building a cyclecar in which the scheme of transmission is based on the ordinary factory belt practice—having the slack side of the belt on top. This naturally results in a greater contact surface on the pulleys, while the belt can be run considerably slacker, and its life thus prolonged. To introduce this idea I propose driving the front wheels and steering by the back wheels, with a water-cooled engine placed well to the rear. The seats would be arranged in tandem fashion well forward, and I think tiller-steering would be more practical than the usual wheel method.

VICE VERSA.

Tunbridge Wells.

Vexatious Taxation.

I fear that the cyclecar movement will be greatly hampered by the cost of number plates (£1) and the Inland Revenue tax of three guineas in the majority of instances, unless legislation is instituted to obtain more reasonable rates. Cyclecars can be bought for £75, and, indeed, there was one for this price at the Show. Many sidecar turn-outs cost from £80 to £90, yet the tax on them is considerably less than on the cyclecar. A point of interest to your subscribers is that in buying a second-hand cyclecar the fee for transferring the numbers is 5s., whilst new numbers cost £1. Moreover, if the car is sold and no mention

▲38

I came away from the Show with the impression strong upon my mind that the car there which could most truly be classed as a cyclecar was the New Hudson exhibit. This machine conforms much more closely than any other that I saw to my idea of what a cyclecar should be. The frame is tubular (a sine qua non in a genuine cyclecar as distinguished from a motor in miniature), it is of the weight which should be the maker's ideal, so that it can be run at a minimum of expense on tyres, petrol and oil, and seems admirably to fill the need of the many who can neither afford the initial cost of a reliable motorcar nor its running expenses and upkeep. In saying this (and I have no interest whatever in the New Hudson Co.) I have no desire to belittle the many beautiful examples of the manufacturer's and designer's art which were on view, most of which, in my opinion, could not come under the category of "cyclecar." The very name connotes close relationship to the cycle, a relationship which was not obvious; indeed it was generally conspicuous by reason of its entire absence.

Mr. Sturmeley wisely lays great stress on the importance of weight, but it seems to me that weight is only one among the many factors that will have to be taken into account when the authorities revise the definition of the cyclecar, for a fresh definition there will certainly have to be. What the great public which is waiting for the cyclecar wants is, I am convinced, (1) a car built on cycle lines; (2) simplicity, handiness and ease of control; (3) lightness, which means low running expenses; (4) ability to do, say, 50 miles per gallon; (5) immunity from breakdowns; (6) comfort and protection from weather; (7) an air-cooled engine able to do traffic work; and (8) price not to exceed £100. Such, I think, is what the "man in the street" requires.

G. T. BENNETT.

Bromsgrove.

of numbers is made, the first claimant to the numbers at the county offices secures them. This is of no importance to the vendor, as it would cost him £1 to transfer to a new car, but is another matter which seems to require legislation in the interests of motorcyclists joining our ranks.

Croydon.

NEW CYCLECARIST.

A "Dividing Line."

The first two numbers of THE CYCLECAR exceeded my expectation, and now that this new industry has a journal of its own in such capable hands it is sure to make rapid and sound progress. I am glad to see that you are fostering it upon purely cyclecar lines, and trust that in the near future a strong dividing line will be drawn between the real cyclecar and the light cars at present masquerading as cyclecars.

Hythe.

A. A. COLE.

The Co-operative Garage.

I am delighted with the article on page 62 of THE CYCLECAR, which exactly hits the nail on the head concerning the difficulty of garaging cyclecars in big towns. I shall be glad to hear of any attempts that are made on the lines you suggest to meet the wants of reasonably-priced storage accommodation for cyclecars in London, especially in my neighbourhood around The Boltons, South Kensington.

London.

RODERICK MATHESON.

THOUGHTS AND OPINIONS (contd.).

Advantages of the Three-wheeler.

Like thousands of others I am keen to see the cyclecar movement develop into a great industry, but I fear that the absurd price of the greater number of so-called "cyclecars" will hinder its rapid growth. On looking through the advertisement pages of THE CYCLECAR one notices several priced between £125 and £175, and even then they are not complete. Now I do believe that there is a large market for the £100 cyclecar and not for these expensive machines. I feel confident that a three-wheeler could have an enormous sale, because my experience of cyclecars has proved to me that the springing of the three-wheeler is superior to that of the four. The body should be



Mr. A. E. Parnacott and the very original cyclecar designed by him. Almost every detail is distinct from usual practice. A letter from him appears on this page.

a comfortable two-seater sociable with high sides to give ample protection from the weather, and should be fitted with hood and screen. The engine should be an 8 h.p. air-cooled twin, transmitting the power to the back wheel through a clutch, two-speed gearbox, and shaft and bevel drive. This would give us a weatherproof transmission. The complete car should weigh 4½ cwt., and have a speed up to 55 m.p.h., while the price complete should be £85. I have designed such a cyclecar, but before going further would like to have a few opinions from readers of THE CYCLECAR. ENGINEER.
Bristol.

Greater Comfort.

There are a few points in the design of cyclecars that need more consideration than they appear to receive. Judging from most of the machines that I have seen, more attention should be given to the design of the engine and carburetter, so as to reduce to a minimum the noise and vibration when the engine is running free, and, further, efficient silencers should be fitted. Because a man's pocket may be small it does not follow that his body is, and a few more inches leg-room and a couple of inches extra width of seat would go a long way towards increased comfort. Finally, let me put in a plea for three forward speeds and a reverse. A reverse is necessary for turning in a confined space, or for backing into a garage. We have seen the three speeds triumphant with the push-bicycle, while it is rapidly becoming so with the motor-bicycle, and it will only delay the development of the cyclecar if this old battle is to be fought out once more. L.F.30.
Oxtd.

Car or Cyclecar?

I do not agree that simplicity by the elimination of two or more "speeds" is desirable, as suggested by Mr. Sturmev, for there are already distinct signs that the big single and twin engines sometimes get overheated. Again, so far as my experience as a motorist and an engineer goes, it is most desirable that the cyclecar shall be able to restart on the steepest hills, and unless the engine speed on lowest gear is quite four times that on a normal top gear it will not be an easy matter for a man without special skill to restart. If there are but two speeds, or even three, then the difference between each is so considerable that changing gear will be heartily dreaded. I agree with Mr. Sturmev it would be most serious to increase the minimum, for I can assure your readers it is

thoroughly practical and sound to build a cyclecar with an all-weather body not to exceed the 7 cwt. total weight limit. A road vehicle, to be run at less than half the cost of a small car, must have excellent springing and the maximum efficiency of transmission. In other words, it must be cheaper than motor-bicycles with sidecars for tyres. It cannot afford to lose 30 per cent. of the power on the way to the road wheels, as is common with car practice.

I must congratulate you on your two first issues.
London, S.E. A. E. PARNACOTT.

Vibration.

Too much attention is being paid at the present time to speed and light weight rather than to durability and comfort. Anyone who had to drive in a cyclecar on business, say from Leeds to Bradford, would go vibration-mad in a short time. Makers and the public do not need to go crazy about speed. A cyclecar if built on magnified motor-cycling lines must not be heavy, of course. In this case, you cannot stop vibration if you drive fast on a road at all rough. A light motorcar is uncomfortable under these conditions; surely a cyclecar will be more so. Speed therefore must be kept down.

Batley

R.

[We venture to suggest that the question of intercepting vibration is more a matter of springing than of weight. Some of the machines on simplest lines, with wooden frames, afford a delightful "floating" sensation on bad roads, owing to the natural shock-absorbing qualities of the frame.—
ED. THE CYCLECAR.]



THE CYCLECAR
FOR TOWN USE.

A suggestion for theatre visits, a detachable hood being fitted. Incidentally the sketch affords an interesting comparison of size with the big Daimler limousine in the background.

Proposed Standard Cyclecar Race.

We should certainly enter for a standard cyclecar race, if such a race is held. Its value in the development of the cyclecar will be very considerable, but as a comparative test its value will depend upon a representative entry. It is a matter of regret that most of the firms which have gained a high reputation in the manufacture of large cars seem inclined to hold aloof. Some of them, perhaps not unnaturally, hesitate to risk their reputation by the possibility of failure in this new field.

Malvern.

MORGAN MOTOR Co., LTD.

Belt Drive.

Having read the interesting article on "Belt Drive" in the second issue of THE CYCLECAR, I cannot but think that the author has been unusually lucky in his experience with that form of transmission. It is admittedly cheaper to install than other forms of drive, and if first cost were the sole consideration the belt has a good case. It is in the matter of upkeep that I cannot agree with "A.H.T." when he says that "the belt must score." The chain or shaft would outlast many belts and give far less trouble in use. Belts are apt to slip, stretch and break rather frequently and at inconvenient times; although these little habits, to some people, are not very serious matters, they do not usually add to one's pleasure. "A.H.T." also refers to a "differential" as being "a most unnecessary encumbrance," the "give and slip of the long belts providing for that effect." I fail to understand the logic of the argument that

A38

the belts will slip to allow of the differential action of the wheels, but that they will not slip during the ordinary course of running. If the belt is allowed to slip for corner work, it seems only reasonable that it will slip when it is not wanted to, with a consequent loss of power. If it does not slip, then the tyres must. Again, it is very improbable that the gear ratio for each pair of pulleys is the same, except when new, and perhaps not then, which means that either a belt or a tyre must continually slip.

T. E. B. W.

[With regard to differential slip and driving slip, the two matters are entirely distinct. It is impossible to go into the matter fully here, so a brief explanation must suffice. The stress put upon the belt causing it to slip when the machine is taking a corner is greater than that met with when moving in a straight line. Thus, in the former case, the belt will slip, while in the latter it will not.—ED. "THE CYCLECAR."]

Converted from Two Old Cars.

Your readers may be interested in a little vehicle I built in the winter of 1911, out of two small cars of ancient make and various new parts. The two old cars were an experimental Chater Lea and a Pieper voiturette. I have fitted a 6 h.p. twin air-cooled J.A.P. engine, while the transmission is by chain from the engine to a two-speed gearbox, and thence by another chain to the off-side rear wheel. A steel crate is placed in front for carrying tins of petrol which I deliver to customers, while the double seat hinges from the rear, the space underneath it being used for tools and spares. The side doors are of patent leather suspended

from a Terry fan belt, which forms a convenient flexible rod for the purpose. The machine weighs nearly 7 cwt., and will not run at more than 25 m.p.h., with two passengers, but it is geared low enough to climb any reasonable hill.

I venture to think that a vehicle of this description—of course a little more modern in design—retailing at about £100 is the type of cyclecar which, in my opinion, would be most useful to the public.

Doncaster.

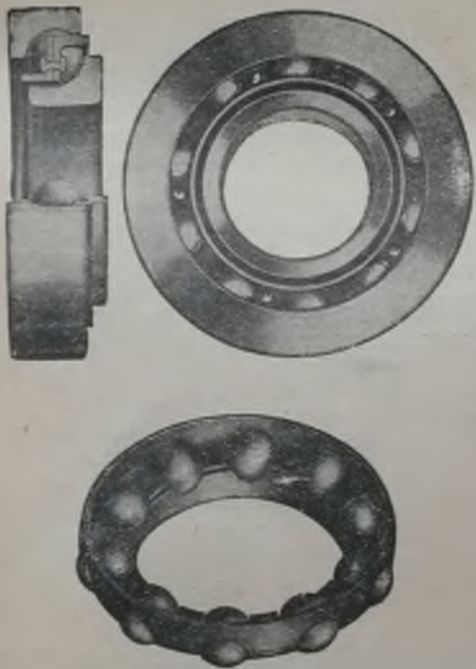
WM. CORCUTT.



Converted from two old cars. See the letter from Mr. W. Corcutt.

FISCHER'S Two-Purpose BEARINGS

(Patented).



Take Thrust and
Journal Loads.

Write for full particulars—

**FISCHER'S
BALL & BEARING CO.,**

Carlton House, High Street, BIRMINGHAM.

THE BEST :: ::
CYCLECAR
FOR YOU

may be selected at

HARRODS

who are not restricted
to selling any one make
but always have in
stock a choice of the
leading cars which you
can inspect at any time

**TRIAL RUNS FREE
TO INTENDING BUYERS**

Deferred Payments
Only **2½%** Extra
GOOD DELIVERIES

Write for Cyclecar List.

HARRODS, LTD., RICHARD BURBIDGE,
—Managing Director.—
Motor Showrooms,
BROMPTON RD., LONDON, S.W.

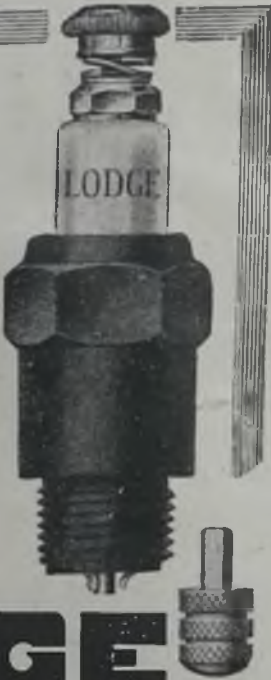
For
Maximum
.. Power ..

in your
Cyclecar
use

THE FAMOUS
LODGE
PLUGS

Obtainable everywhere. Price 4/-
English made and guaranteed.
When ordering, specify "Motorcycle Type."

Lodge Bros. & Co., Dept. W. Birmingham.
New St.



Precision ENGINES

"The same as you can buy."

THE makers of the "Precision" Engine, which occupies an unrivalled position in the Motor-cycle trade, invite enquiries for engines suitable for Cyclecars.

Four models of single cylinder engines, and an equal number of twin cylinder engines, comprising both air and water-cooled examples, are standard.

The makers are at all times willing to place at the disposal of the builders and designers their experience in regard to the application of the various models.

F. E. BAKER, LTD., PRECISION
MOORSOM STREET, BIRMINGHAM.

Wholesale Distributing Agents for Australia—Messrs. A. G. Healing & Co., 354, Post Office Place, Melbourne. Agent for South Africa, Rhodesia, and Portuguese East Africa—Victor S. Welsford, P.O. Box 883 Durban.

£125 is the price of a little two-seater which can do 40 miles to the gallon—and 40 miles per hour if wanted.

Write for particulars to-day, to

R. M. Wright & Co.

THE CYCLECAR EMPORIUM,

LINCOLN.

ALL THE BEST MAKES TO CHOOSE FROM.

WILTON

THE PERFECT CAR
IN MINIATURE

EARLY DELIVERY.

LIST FREE.

ORDERS EXECUTED IN STRICT ROTATION.



TRANSMISSION—3 speeds and reverse, gear box, gate change, shaft and sliding couplings to rear axle.
AXLE—Bevel drive, differential, spur type on six-sets ball bearings.

BRAKES—Two pairs internal expanding in rear wheels, compensated, hand and foot.

STEERING—Irreversible, worm and segment.

WHEEL BASE—9 ft.; track 3 ft. 10 in.

FRAME—Inverted "U" section, pressed steel.

ENGINE—8 h.p., water-cooled Precision, Thermo-syphon, new type radiator and bonnet.

BODY—Torpedo, side-entrance, with hood and screen Complete Car **£160**

TYPE 2—4-cylinders, 8/10 h.p. **£175**

WILTON CYCLE & MOTOR CO.,
110, WILTON RD., VICTORIA, LONDON, S.W.

Telephone—5115 Victoria.

THE VIBRATIONLESS
"GORDON"

WITH 3 YEARS' EXPERIENCE

was the Cyclecar picked at the Show for the Scottish Hills and the Lake District. **BECAUSE** it has been there 3 years ago, and knows what to expect.



"Will Climb any Hill."

Our motto is—not How Cheap, but How Good. Every car is Tested and "Guaranteed." We also build 4-seaters.

The **EAST RIDING ENGINEERING WORKS,**
BEVERLEY, E. YORKS.

London Agents—Cass, Motor Mart, Warren Street, Euston Road, N.W

WHITELEYS

EXPERT SERVICE **FOR** **Cyclecars.** PROMPT DELIVERIES

Singers
Swifts
Humberettes
Crescents
Rollos
Sabellas
Duos
Wiltons
Babys
Warnes

OUR UNIQUE BOOKING SYSTEM.

We will book any Car or delivery date for you, on payment of a deposit of £5. If you change your mind before delivery, the deposit could be transferred to any other car, or we will **refund it in full immediately** the Car or delivery date has been booked to another client.

New Hudsons
A.C.'s
L.E.C.'s
G.W.K.'s.
Ardens
Premiers
Motorettes
Matchless
Rudges
Perry's

Deferred Payments from 2½% extra

THE House for anything "Motorish."

Wm. WHITELEY, LTD.,
Queen's Road, London, W.

THE

"L.M."

set the fashion to the
Cyclecar Movement,
and still leads!

Does Experience Count?
The "L.M." was the first practical
four-wheeled British Cyclecar.

Experts' opinion at Olympia were:
"The 'L.M.' is the BEST CYCLECAR
in the Show AT THE PRICE."

— 95 Guineas. —

Why pay more when the "L.M." will do all that any other Cyclecar will do at a minimum of expense?

Send at once for full particulars of this well-tried Cyclecar to

Wm. M. CUNNINGHAM,
"L.M." Works, CLITHEROE.

London Agent: F. LONGMAN, 93, Upper Gloucester Place, London, W.

For Guaranteed Delivery
of the new

— 10 h.p. —

SINGER

Price **£185** Complete,

for Full Particulars
and Trial Run, apply

Percy Lambert & Worger.

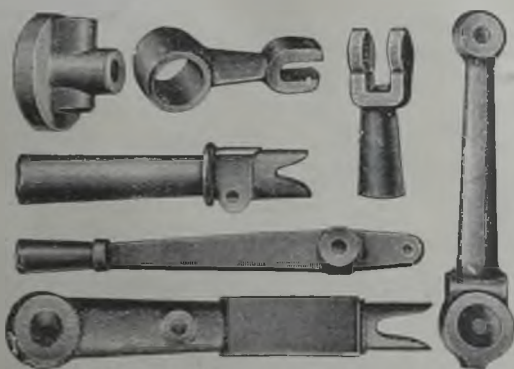
LTD.

Sole London Agents for

— **SINGER CARS,** —

48a, PALACE St., S.W.

Brett's Stamping Co.,
LTD.,
Manufacturers of all Descriptions of
DROP FORGINGS
OF THE HIGHEST QUALITY.



**HARNALL LANE,
COVENTRY.**

Telegraphic Address: "BRETT'S COVENTRY."
Telephone No. 168.


HYATT . . .
ROLLER BEARINGS.



are correct in design—
they are made of thoroughly
tested materials—are care-
fully inspected—are more
durable—and have greater
practical value than any
bearing made.

**BROOM & WADE LTD.,
HIGH WYCOMBE.**

SAVE PETROL
INCREASE POWER



by using **The N.L.G. Jet** for **4/-**
TRIUMPH & B. & B. Carbs.
N.L.G., 1-8, Corsica St., London, N.

TUITION ON CYCLECARS.

Before purchasing, intending owners of cyclecars should learn all about these new pleasure vehicles, and become acquainted with the various designs of engines, gears, and transmission systems adopted on the different makes.

Acquire this information, which will be willingly given to purchasers by writing to the Secretary of the **Holborn School of Motoring, 38, Gt. James Street, Holborn**, where Special Courses of Instruction on the new cars may be obtained.

U.H.

**FITTED TO
ALL THE
BEST
CYCLECARS.**

U. H.
MAGNETOS.
Fit one and convince your-
self of its superiority. : :
Booklet and full particulars on application.
S. WOLF & COMPANY,
115, Southwark St., London, S.E.
Telegrams: "Widerstand, London."
Telephone: 6172 Central & 2734 Hop.

**THEY COULD
NOT BE
BEST
WITHOUT.**



C.D.C.

Immediate delivery from Stock of


Kendall Cigarettes.

In Twin Belt Drive Model, with 7-9 h.p. Peugeot Engine at 85 Guineas.
" " " " 8 h.p. Jap " " 92 "
Cardan Shaft " " " " 120 "
Can be given by the
Sole Concessionaires, 88, Shadwell Street, Birmingham.

"The Cyclecar Manual"
Now on Sale.

1/-, in paper. 1/6, in cloth. Postage 3d.

**"NOT THE . . .
HOUSE THAT
JERRY BUILT"**
but
one that will last.
Covered with iron,
therefore practically
Fire-proof. : : :
We specialize in
3 sizes.
LISTS FREE.



THE CYCLECAR GARAGE CO.,
PHOENIX WORKS, WHARF ROAD, BOURNEMOUTH.

Oils. Oils. Oils.

Record Prices.
Record Quality.

**TRY
T 43
Motor Oil.**

ONCE USED ALWAYS USED.

To introduce this Oil we will send one gallon can carriage paid to any address in England on receipt of P.O. for 3/-.

**THE RECORD OIL CO.,
104, LEADENHALL STREET, E.C.**

CONSULT
P. J. EVANS
FOR
CYCLECARS.

You cannot do better. I have in Stock for Immediate Delivery,
1913 G.W.K. & FORDS, £135, Complete,

— ALSO —
HUMBERETTE



complete,
Hood,
Screen,
Lamps,
£125

Ready to drive away. I can supply you with all the choicest Makes, and have Contracts placed for Early Deliveries.

.. Don't .. **PERRY SMALL**
forget the **CAR.**

It will be ready shortly. Delivery being booked for March.

**P. J. EVANS, SPARKHILL,
BIRMINGHAM.**

ADDITIONAL PREMISES—

**87, 89 & 91, JOHN BRIGHT ST.,
BIRMINGHAM. Opened 1st Jan.**

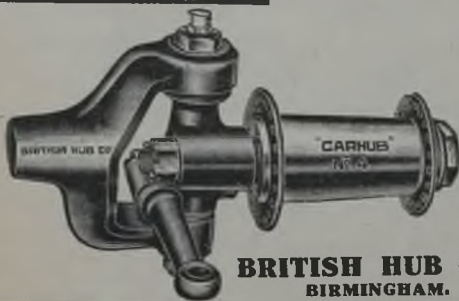
MOTOR CYCLING DIARY FOR 1913.

Will go into the waistcoat pocket. Useful information on cyclecar and motorcycle subjects. Indexed diary and memorandum section. ..

7d. post free, in leather, from

**TEMPLE PRESS Ltd., 7.15, Rosebery Avenue,
LONDON, E.C.**

"CARHUB" Send for our
"Carhub" List.



**BRITISH HUB CO.,
BIRMINGHAM.**

Visible Gap Spark Plug 4/-



The J.D. Visible Spark Plug—with a secondary gap outside the motor, and a port or opening facing it—indicates positively and at a glance just in which direction ignition trouble lies. No more testing and hunting; you look through the port and see if the spark is jumping. By simply turning the knurled adjusting nut, you can widen the gap, which intensifies spark and cleans points, or can close gap entirely. Facilitates timing of engine and permits regulating of spark for any cylinder. Uses minimum current and costs no more than any good plug.

Made of J.D. highest grade materials, with special porcelain that defies heat. If your dealer can't supply you, sent post-paid on receipt of price.

MAKERS:

**Jeffery-Dewitt Company,
DETROIT, U.S.A.**

Sole Wholesale Agents British Empire:

**S. & F. STEPHENSON,
12, Hopwood St., Liverpool.**



Quality and Cheapness Combined.

Immediate dispatch of Cycle Houses, from £2-17-6. Send to day for catalogue, or call and inspect for proofs. Telephone: Putney 785.

South Western Timber Co., High St., Fulham, S. W.

Shortening Belts—Dirty Work.

So fit the "AJAX" REACTION DRIVE, . .

which will do it for you automatically. Write for particulars. BAMFORD & CO., AJAX WORKS, STOCKPORT.

Cyclecar F.R.S. Lamps.

LAMPS and GENERATORS, hold World's Records.



ELECTRIC £7-7

10 in. Headlamp, 4 1/2 in. Side and Tail.

We have also a set of Gas Lamps with a new CAR size RIDDLING Generator. £7-0-0 per set.

The F.R.S. LAMPS, - - BIRMINGHAM.

GODDARD'S CYCLECAR HOUSES.



ft.	ft.	ft.	£ s. d.
9	6	7 1/2	4 5 0
10	7	7 1/2	5 7 6
12	8	8	7 0 0
14	8	8 1/2	8 5 0

Carriage Paid.

These houses are made in sections to bolt together. Easily fixed. Made of well-seasoned 2 in. T. & G. and V. jointed Matchboards, and complete with floor and windows. Wide double doors, lock and key. Roof felted with Patent Vulcanite Roofing. Large Illustrated Catalogue with prices of other houses post free.

Our Prices are all Carriage Paid. GODDARD'S, St. Mary's Road, ILFORD, ESSEX.

Used by Royalty. Better than ever!

TUCK'S GOLDEN LEAFLETTED CHRISTMAS CARDS

WORKS OF ART. 2/6 Grand Parcel for 1/3. All by TUCK. Envelopes included. TRANSITION FRES. Containing 25 Golden Versed Tuck's Xmas Cards. All Lovely Leafletted Designs.

20 for 6s. HALF-PRICE 20 for 6d.

RECOMMENDATION PARCEL OF TUCK'S CHRISTMAS CARDS.

EACH CARD A WORK OF ART. Sent to any address in the Kingdom for 8 Stamps. Containing 20 Tuck's Lovely Leafletted and Golden Versed Designs, all by Tuck, with envelopes, post free.

LOOK! XMAS POST CARDS, beautifully designed, 1/2 for 1/- BIG BOX OF TEN TOYS FOR A SHILLING.

Parcel Post, 1/3. Stamp or P.O. T. B. L. King's Premises, Savoy Corner, Strand, London.

Cyclecar Manual.

Now on Sale. Price - 1/-

CYCLE-CARS OF EVERY MAKE

supplied on cash or extended payment terms.

Our contracts with leading manufacturers entitle us to early deliveries of all the most desirable makes, whilst we are special agents for the

SINGER, Humberette, - A. C. -

If you have a Motor-cycle to dispose of, we will accept it in part payment at a figure that you cannot fail to deem satisfactory.

Call, Write or 'Phone to

EASTERN GARAGE CO.

418, Romford Rd., FOREST GATE, E.

'Phone: 10 Stratford. 'Grams: "Egaraco, London." C.D.C.

Ready-built Cyclecar Garage.



Don't pay out for heavy housing charges when you can own a garage already built for what you pay in less than 12 months for storage. We ship to you in sections. FINISHED and COMPLETE, for the following prices—9 ft. x 7 ft. x 7 ft. high, £3 18s. 6d.; 10 ft. x 7 ft. x 7 1/2 ft. high, £4 6s. 6d.; 10 ft. x 8 ft. x 7 1/2 ft. high, £4 18s. 6d.; 12 ft. x 8 ft. x 7 1/2 ft. high, £5 13s. 6d.; 14 ft. x 10 ft. x 7 1/2 ft. high, £7 3s. 6d.

DESCRIPTION.—Made of the best seasoned timber. Raised damp-proof floor. Entrance gangway. Roof covered with Leatherite non-tarring roof felt. All parts treated with brown wood preservative and guaranteed weather-proof.

All necessary hardware and equipment included. Prices on rail, Staines station. Any size can be made. Delivery from stock. Lists free. CHIPMANS, Ltd., B.2, Kingston Road, Staines. 'Phone 121.

MORGAN RUNABOUTS

DELIVERY JANUARY.

BURRELLI Ltd., 2, ALBANY RD., CARDIFF

Important Notice. ::

Owing to the Christmas Holidays

advertisements for this section for our issue of 1st January, must reach the Advertisement Offices by first post Tuesday, 24th December.

"Copy" must be addressed to the Manager, "THE CYCLECAR," 7-9-11-13-15, Rosebery Avenue, London, E.C.

THE MILLS PETROL .. SAVER JET ..

is very successful on
Claudel, Zenith, R. & B., etc.

**Greater Economy — More Power —
Sweeter Running — Quick Acceleration.**



The light spray—petrol goes
straight from top of nozzle.

PATENT.

EASY TO FIT.—The
MILLS JET simply
replaces the jet in your
Carburettor. The ato-
mising cone adjusts the
orifice in nozzle to
enable maximum power
and mileage per gallon
to be obtained.

**This Patent Jet is
made any length
and diameter to
suit your car-
burettor.**

GUARANTEE—Your money will be refunded if this Jet
does not give you entire satisfaction—No time limit on this
offer—You can test it at your own convenience.

For full particulars of claims, testi-
monials, price, etc., direct only from—

**H. E. MILLS (INVENTOR
& FACTOR).**

441, Brighton Rd., South Croydon, Surrey.

Telephone—399 PURLEY.

DELIVERY:

This is most important. We
are having the following Cyclecars
coming through at the rate of one
or two per week up to Midsummer,
and shall be glad to have your
kind inquiries for any of these:—

**Humberette, Crescent, Arden,
G.W.K., A.C., Morgan, Singer,
Premier, Voiturette Baby, and
Invicta Runabouts.**

We supply retail, on cash or
deferred terms; wholesale on best
trade discounts. If you prefer to
have the deal through your local
agent, we shall be pleased to give
him trade terms, and put the busi-
ness through him. Remember the address:

HITCHENS Ltd., Morecambe.

Telegrams:—"Hitchens, Ltd, Morecambe." Phone 112.



**Buy your
copy now—
First Edition
rapidly selling out!**

In Cloth, 1/6 net.

In Paper 1/- net.
Postage 3d.

TEMPLE PRESS LTD.

7-15, Rosebery Avenue, London, E.C.

Wholesale: E. J. Larby, 1, Paternoster Avenue,
London, E.C.

The Best Xmas Present
to yourself and to your motoring friends
is a **CYCLECAR CLOCK.**

Brass,
Nickel,
or
Black.



Heavy
Hands

Bold
Dial.

Can be wound or set without removing the gloves. Dust, air,
and damp-proof. Will outlast any car. Replaced or repaired
free of charge if at any time it fails to give satisfaction.
No amount of vibration will affect its time-keeping.

Price - **12/6** each. Post Paid.

From all leading dealers, or from the makers—

J. C. PLIMPTON & CO., LTD.,
Plimpton's Buildings, Old Hall Street, LIVERPOOL.

CYCLECARS for SALE
NEW or SECOND-HAND
— AND SUNDRY —
ADVERTISEMENTS.

RATE FOR ADVERTISEMENTS IN THIS SECTION.
TWENTY WORDS, 1/- (MINIMUM).
6d. per line (ten words) after.

TRADE CARDS, in uniform type are inserted in this section at the rate of 10/6 per inch.

The Rates for Trade Advertisements are the same as quoted above but are designated "TRADE," for the guidance of the reader. Subject to a discount of 5 per cent. for 13 consecutive insertions, 10 per cent. for 26. Terms: Cash with order, and otherwise net.

DISPLAY ADVERTISEMENTS, £10 10s. per page. Scale of charges with reduction for series, sent on application.

Copy for, and all matter relating to, advertisements must reach the offices first post Thursday, and should be addressed to THE MANAGER, "THE CYCLECAR," 7-15, ROSEBERY AVENUE, LONDON, E.C. Telephone No. 5292 Holborn (four lines). Telegrams: "Pressimus, Holb., London."

Midland Offices:—Stephenson Chambers, 39, New Street, Birmingham. Telephone No. 1839 Birmingham. Telegrams: "Presswork, Birmingham."

Northern Offices:—196, Deansgate, Manchester. Telephone: Central 2457. Telegrams: "Presswork, Manchester."

SUBSCRIPTIONS.

"THE CYCLECAR" will be mailed regularly at the following rates:

	12 ms.	6 ms.	3 ms.
United Kingdom	6s. 6d.	3s. 3d.	1s. 8d.
Canada	8s. 8d.	4s. 4d.	2s. 2d.
Elsewhere	10s. 0d.	5s. 0d.	2s. 6d.

REMITTANCES.—Postal Orders, Cheques, etc., should be crossed and made payable to "Temple Press Ltd." All letters regarding subscriptions must be addressed to "The Manager."

DEPOSIT SYSTEM.

Cyclecars or accessories may be purchased through our approval deposit system. We charge a commission of 1½% on amounts from £50 to £100, and 1% on amounts exceeding £100. Further particulars on application.

TRADE CARDS.

*A.C. Sociables,
Auto Carriers,
Morgan Runabouts.*

COLMORE DEPOTS,

49, John Bright St., BIRMINGHAM.
18, Renshaw St., - LIVERPOOL.
261, Deansgate, - - MANCHESTER.

Cane Bodies for Cyclecars.

THE "VICEROY" MANFG. Co.,

Fisher Street,
New Basford, Notts.

Designs and Drawings on application.

*Repairs and Alterations, Replacement Parts
Made, Gears, Valves, Cylinder Grinding, etc.*

LAYSTALL REPAIR WORKS,

34, Queen Street,
City, London.

CYCLECARS FOR SALE.

A.-C. SOCIABLE tricar, late 1912, very little used, lamps, screen, side aprons, spares, etc., cost £119, sell £80. Gage, Earlswood Asylum, Redhill. 4 200

A.-C. SOCIABLE, 1911, screen, horn, luggage carrier, Dietz head and side lamps, painted, upholstered navy green, sides built in, new tyres, splendid condition throughout, £70. 63 Barclay Road; Leytonstone. 4 243

A.-C., August, 1911, cost £110, hood, screen, lamps, etc., little used, unscratched, nearest £75 cash. George, Slaney Street, Gloucester. 4-227

A.-C. SOCIABLE, 1912, latest model, front brakes, hood, screen, side aprons, luggage grid, horn, lamps, headlight, speedometer, all tools, etc., condition perfect, paintwork new, £75. Eastern Garage Co., 418 Romford Road, Forest Gate, E. Trade 4-226

A.-C. SOCIABLE, painted royal blue, non-skid rear, front brakes, screen, luggage carrier, headlight and generator, number plates, absolutely ready at Thames Ditton works, price complete £101 4s. 6d., accept £92, an exceptional opportunity of immediate delivery below cost. T.E.G., 46 Sandon Road, Birmingham. 4-252

A.-C. SOCIABLE, 1911, little used, screen, hood, non-skid rear tyre, J.A.P. automatic carburetter, Beacon lamps, spare chain, etc., perfect condition, £60. 64 Crwys Road, Cardiff. 4-254

BEDELIA (late 1911), 8-10 h.p. twin, painted grey, hood, screen, lamps, etc., perfect order, £60. Smith, 199a King Street, Hammersmith. Trade 4-240

DUOCAR, 8 h.p., by Duocars, Ltd., new October, done 750 miles, horn, hood, screen, four lamps, speedometer, perfect condition, sold through ill-health, what offers? Goodwin, Grampound Road, Cornwall. 4 228

GLOVER, 1913 model, like new, cost £80, accept £66 cash, good reason for selling. Full particulars, Smart, Wrentham Street, Birmingham. 4 248

HUMBERETTE (Beeston), 5½, two speeds, reverse, Palmer cords back, new covers front, engine gears, coachwork perfect, £25 or near offer. Teed, 27 New Street, Uttoxeter, Staffs. 4-251

HUMBERETTE. For early delivery, apply Golby, Agent, Batley. Trade 4-176

MORGANS, two 1913 standard models in stock, immediate delivery, 8 h.p. J.A.P., grey bodies, fitted with 3 in. studded tyres back wheel. Potter, Clyno Agent, Leicester Grove, Leeds. Tel., 4046 Central. Trade 4-143

MORGANS, 1913, standard models in stock, with 3 in. studded back tyres, other models January, secure now before the rush. Potter, Clyno Agent, Leicester Grove, Leeds. Tel., 4046 Central. Trade 4-207

PREMIER cyclecar, £105. Best deliveries from Golby, Batley. Trade 4-178

ROLLO cyclecar, 1912, 1913 improvements, two-seater, 8 h.p. J.A.P., French grey, patent Gradua gear, screen, four lamps, horn, tools, spare tube and cover, under 2000 miles, perfect, buying four-seater, accept £70. Ludlam, Hardelot, Clifton Down, Bristol. 4-190

ROLLO two-seater cyclecar, only done 400 miles, owner buying car, offers. Evans, Garage, Newport, Salop. Trade 6-209

SABELLA-J.A.P., 1911, 8 h.p., hood, little used, cost over £100, £60, near offer, or exchange, trial run. Shapland, Ewell, Surrey. 4-145

SABELLA, 8 h.p. J.A.P., Bosch magneto, new April, 1912, tyres and belts as new, lamps, etc., £70 or near offer, seen by appointment. Godfree, 5 Beresford Street, Camberwell, S.E. Trade 4-221

SINGER cyclecars. Order immediately for early delivery from the Guildford and Godalming agents, Crow Bros., 190 High Street, Guildford. Trade 10-35

SWIFT cyclecar and chassis, 130 guineas, on view London Depot, Swift Cycle Co., Ltd., 15-16 Holborn Viaduct, E.C. Trade 4-185

SWIFT, the world's best cyclecar, early delivery. Golby, Batley. Trade 4-177

DO you want a second-hand motorcar? Consult the small advertisements in "The Motor." Every Tuesday, 1d.

MISCELLANEOUS CYCLECARS.

CYCLECARS, in first rate condition. Sabella, £65; G.N., £55; Morgan, £95; Sabella, £75. For trials write Cyclecars, 102 Lillie Road, S.W. 4-194

HUMBERETTE, Singer, Rudge and Premier cyclecars, delivery this month; motorcycles taken in part exchange. Julian, 84 Broad Street, Reading. Trade 4-234

HUMBERETTE, Baby, and L.M. cyclecar in stock, Premier, Perry, Rudge, Singer, and New Hudson for early delivery, write for best terms. Hebden's Motor Mart, Burnley. Tel., 488. Trade 4-229

SOCIABLE Cyclecar, three wheels, two speeds, 8-10 h.p. water-cooled engine, new, wheel steering, in splendid condition, stamp for photo, sell £35, or exchange. Rishangles, Wenham Drive, Westcliff-on-Sea. 4-208

EVERY motorcyclist should read "Motor Cycling." Every Tuesday, 1d., with all the latest news.

CARS, QUADCARS, MOTORCYCLES, Etc.

BABY PEUGEOT, 6½, two-seater, Stepney and spare tyre, new hood, lamps, horn, etc., in splendid condition, price for quick sale, £35. Hollings, Motor Engineers, Morecambe. Trade 4-197

COLIBRI light car, 10 h.p., four-cylinder, 1910, thermosyphon, three speeds, magneto, shaft drive, aluminium two-seater semi-racing body, electric side lamps, weight 12 cwt., 35 m.p.g., 57 m.p.h., tyres perfect, lately overhauled, can be seen and tried, first £150 accepted. Write 9 Elmbank Mansions, Barnes, S.W. 4-233

CYCLECAR. Chater Lea tricar, suitable for converting to above, 3½ W. and P. engine, Millennium two-speed gear, Palmer tyres, perfect, sacrifice, £20. Oxborrow, care of Boon, Cycles, Ipswich. 4-216

MEFZLION, 22 h.p., two-seater runabout, hood, screen, etc., demonstration car, special clearance price, £80. Collatt's Garage, Salisbury. Trade 4-249

REGENT GARAGE have for sale several bargains. Indian two-cylinder bikes at £40 and £35, both in excellent order; Zenith Gradua, 3½ h.p. J.A.P. engine, with coachbuilt sidecar, very smart, £66; Clyno cyclecar, twin engine, 1912, only done 2000 miles, £75. Note address: 5 New Burlington Place, Regent Street, W. Phone. 1079 Regent. Trade 4-224

ROVER, 6 h.p., two-seater, excellent condition throughout, lamps, accessories, good luggage accommodation, suit traveller. £40. 12 Grosvenor Road, Wallington. 4-202

ROVER, 6 h.p., hood, screen, dual, high doors, Stepney, speedometer, first-class condition, offers. 89 Canterbury Road, Margate. 4-214

SINGER 10 h.p. light car, £185 complete, guaranteed delivery from the sole London agents for Singer cars. Percy Lambert and Worger, Ltd., Palace Street, S.W. Trade 4-250

SOCIABLE tricar, 1912, very light, 3½ h.p., Roc two-speed gear, Bosch magneto, basket seat, £32. 156 Railton Road, Herne Hill. Trade 4-247

TRICAR de luxe, brand new, beautiful design, very fast, twin-cylinder 7-9 Peugeot, two speeds, Michelin tyres, Bosch magneto, pressure tank, a great bargain at £60; on view. Yeutsh, 2 Finchley Place, Eyre Arms, St. John's Wood, N.W. zzz-181

6 h.p. TWIN Riley tricar, water-cooled, three speeds and reverse, excellent going order, three lamps, horn, spares, tools, etc., £30. Nute, 10 Wright Street, Egremont, Cheshire. 4-217

HAVE you a motorcycle for sale? "Motor Cycling," Tuesdays, 1d., provides the best medium. zzz-222

DISPOSE of your second-hand car through the columns of "The Motor." Every Tuesday, 1d. zzz-223

ALL the latest news of motor boat events appears in "The Motor Ship and Motor Boat." Every Thursday, 1d.

BODIES.

CYCLECAR Bodies. Designers and builders; special low prices to the trade for quantities. Bristol Motor Body Co., Lewins Mead, Bristol. Tel., 2891. Trade 16-191

CYCLECAR Bodies. We are the designers and builders of the most popular cyclecar bodies on the road. Try us for quantities. Meace and Co., Lillieshall Road, Clapham, London. Battersea 1789. Trade 15-204

CYCLECAR bodies. Send us your specifications for prices; lightness with strength our speciality. The Light Car Body Co., Coventry. Trade 4-238

WANTED.

MOTORCAR. Wanted to hire or hire-purchase, new or good second-hand two-seater, fullest particulars, lowest price and terms. M.C., 804, Deacon's, Leadenhall Street, E.C. 4-203

WANTED a cyclecar or machine and sidecar, in exchange for equity in new house at Portsmouth, let on lease, showing 9 per cent. profit. Builder, Avoca Vale, Ophir Road, Portsmouth. 5-210

WANTED, wheel-steering front axle with wheels, tyres 26 in. by 2½ in.; also two 3 h.p. air-cooled engines, cheap. Burrill, Inkberrow, Worcester. 4-211

WANTED, immediate delivery, new Humberettes, Swifts, Perrys and Singer cyclecars; state best trade discount and delivery dates. Hitchen's, Ltd., Morecambe. Trade 7-212

WANTED, Wall cyclecar, one or two-cylinder. Wright, 24 Cross Street, Islington, N. 4-244

WANTED, 6 or 8 h.p. twin engine, magneto, and carburetter complete, suitable for cyclecar, J.A.P. preferred, must be modern and in perfect condition. W., Charnwood Cottage, London Lane, Bromley, Kent. 4-246

SECOND-HAND parcelcars advertised for sale in "The Commercial Motor." Thursdays, 1d.

MISCELLANECUS.

MONOCAR and duocar parts of every description manufactured to customers' special requirements; worm or bevel-driven back axles of exclusive design, gearboxes, steering mechanism and special Eagle mono engines for this class of work from 3½ to 9 h.p., water or air-cooled; cars constructed to customers' own designs. Also manufacturers of motorcycle air-cooled engines from 2 to 9 h.p.; alterations and repairs a speciality. The Eagle Motor Manufacturing Co., Ltd., 1 Shepherd's Bush Road, W. Trade zzz-147

PHENIX plate clutch and two-speed and reverse epicyclic gear for chain drive, in perfect order, ready to drop into cyclecar, £7 the two. Sanderson, Milton Road, Cambridge. 4-189

CYCLECAR Components. High-class cyclecar components; axles with differential gear, transmissions, two-speed and free engine, shaft drive, etc. A. W. Wall, Ltd., Haymills, Birmingham. Trade zzz-205

TYRE BARGAINS! Armstrong tyres for cyclecars, extra heavy, at low prices; Armstrong tyres for motorcycles, heavy, from 13s. 6d., tubes from 5s. 9d. Armstrong accessory bargains, horns, clocks, magnetos, pumps, all your requirements at low prices. Armstrong and Co., 24 Goldhawk Road, Shepherd's Bush, London. Trade 4-215

CYCLECAR wheels, 650 by 65 or 60, new, 90s. set, any size to order. 27 Wimbourne Road, Nottingham. Trade 4-213

LYSO belts, 1 in., new, one 8 ft. 6 in., one 7 ft. 9 in., four belt rims, Mabon clutch lever, what offers? Matson, Hayes, Middlesex. 4-218

7 h.p. TWIN water-cooled engine, new, sound construction throughout, ball-bearing gearbox, three forward and reverse, perfect order, gears unmarked, suit up to about 12 h.p., expert inspection invited; M.A.B. steering complete; 12 h.p. two-cylinder two-cycle launch engine, dual ignition, suitable launch or stationary work; 10 h.p. two-cylinder engine, suitable stationary, both above engines may be seen working. Full particulars, Lewis Kettle, Uphill Mill, Folkestone. 4-219

McNAE'S "No-trouble" motor soap for dirty hands; three tablets 1s., post free. Saxon Works, North Bow, E. Established 1871. Trade 4-220

SUIT cyclecar, Wolseley, 6½ h.p. gearbox, 30s.; clutch and gear, 12s. 6d.; steering lock, 15s.; rotary pump, 7s. 6d. Margarita, Moor Green, Cotes. 4-235

RILEY Car chassis, complete with 9 h.p. water-cooled engine, Bosch magneto, three speeds and reverse gearbox, transmission, wheels, tyres, radiator, etc., make ideal cyclecar, £30. Tennant Engineering Co., Pershore Street, Birmingham. Trade 4-237

TURNER BROTHERS supply and ship cyclecars, all makes; Colonial motorists, write us for inclusive prices. 134 Upper Thames Street, London. Trade 4-239

FOR SALE, two brass acetylene lamps and generator for cyclecar, never been used, also new Michelin tube, 650 by 60, £2 5s. the lot, or sell separately. Mackay, Shirley House, Watford. 4-241

TYRE Renovation. Have you heard of the latest and most perfect system of tyre renovation? If not, write for particulars of Resistal patent process to R. D. Alder and Co., Resistal Motor Tyre Works, Landor Road, Clapham, S.W. Trade 4-242

FOR CYCLECAR Building, owner gone abroad, tubular frame, countershaft and chain wheel, back axle, differential, two chains, two brakes, and two wire wheels (26 in. by 2½ in.), two-seat body, 3 h.p. Hercules engine, tank, coil, accumulator, all new, also three carburetters and sundries, cost £35, the lot £10; dynamo, 30s. Redshaw, South Wigston, Leicester. 4-253

WRITTEN and illustrated by experts. "The Motor," first out every Tuesday, 1d.

HOODS AND SCREENS.

HENNESSEY'S Hood and Screen Factory. Large stock to be cleared; all sizes; cyclecar, sidecar and one-man hoods, single adjustable glass screens, from £3; hoods repaired and re-covered, several second-hand hoods and screens cheap. Hennessey's, 210 Breck Road, Liverpool. Telephone, 378 Anfield. Trade 4-171

CAPE Hoods and windscreens for cyclecars, manufacturers to the trade, keen prices for quantities. Motor Hood and Screen Co., Lewins Mead, Bristol. Trade 16-192
JASSON MOTOR WORKS, Ainsdale, Lancashire, for scientific, light cyclecar hoods, screens and fittings, unsurpassable value, quotations from £1 10s., state requirements. Trade 8-230

EXCHANGE.

EXCHANGE, 5 h.p. Tourist Trophy Dot motorcycle, J.A.P. engine, Bosch special magneto, in perfect condition, not done 1000 miles, £35 lowest, or exchange for 5 in. Drummond foot lathe or similar machine. Box 680, care of "The Cyclecar." 4-193

TO AGENTS. Wanted, best allowance on 1912 8 h.p. Matchless passenger model, double-sprung Montgomery lounge sidecar, accessories, cost over £100 last Easter; part exchange for 1913 G.W.K. or Humberette. Powell, 4 Queen's Road, Felixstowe. 4-199

MAGNETOS.

MANCHESTER'S expert.—Latest Eisemann magnetos and Bosch spare parts supplied from stock, trade inquiries solicited, repairs scientifically undertaken to magnetos, coils, accumulators all makes, rewinding, remagnetizing. Several reliable second-hand magnetos for sale. J. H. Runbaken, Motor Ignition Specialist, 7 Peter Street, Manchester. Carefully note address, as connection with firm similar name discontinued. Trade 13-24
DESCRIPTIONS of all the latest engines and machines. "Motor Cycling," every Tuesday, 1d.

INSURANCE.

SPECIAL cyclecar policies are issued by Ernest Bass, Insurance Broker, Bishops Stortford, originator of special "A.C." policies. Send for particulars. 4-21
SPECIAL cyclecar policies, covering accidents and all risks, at minimum rates. Obtain unbiased advice and particular attention to individual requirements. Mayes, Insurance Broker, 16 Wormwood Street, London. 6-25
FIRST out with all the news, "Motor Cycling," Tuesdays, 1d.

FINANCIAL.

PARTNER with capital to exploit cyclecars, splendid opening for experienced man, or would train beginner. Box 712, care of "The Cyclecar." 4-195
FIRST-CLASS motor mechanic wishes to meet gentleman with £300 or £400 to put £40 cyclecar on the market, good chance for gent. wishing to learn the business. Box 710, care of "The Cyclecar." 4-206
BRITAIN'S pre-eminent motor paper.—"The Motor." Tuesdays, 1d.

BUSINESS PREMISES, Etc.

CHISWICK (adjoining High Road). Modern factory, 70 by 40, first floor 50 by 34, goods lift, shafting, 14 h.p. gas engine, rent £150. Apply Redfearn, Estate Agent, 111 High Road, Chiswick. 4-201

BOOKS AND PUBLICATIONS.

MOTOR CYCLING MANUAL, an invaluable handbook for the motorcyclist; new edition just published, 1s. 6d. net, post free 1s. 9d. from "Cyclecar" Offices, 7-15 Rosebery Avenue, London, E.C. zzz-53
FIFTY MILES ROUND LONDON, a useful map on the scale of 4 miles to the inch, showing all the chief main roads from Portsmouth to Harwich and Oxford to Dover; 1s. net on paper, 1s. 6d. mounted on cloth, postage 1d. extra. "Cyclecar" Offices, 7-15 Rosebery Avenue, London, E.C. zzz-54

MAP OF ENGLAND AND WALES, drawn on a small scale, but exceptionally well printed, so that all main roads stand out distinctly: price 1s. on paper, 1s. 6d. mounted on cloth, postage 1d. extra. "Cyclecar" Offices, 7-15 Rosebery Avenue, London, E.C. zzz-55

CYCLECAR MANUAL. The only handbook on the cyclecar. Every cyclecarist should possess a copy, 1s. net on paper, 1s. 6d. net bound in cloth, post free 1s. 3d. and 1s. 9d. respectively from the offices of "The Cyclecar," 7-15 Rosebery Avenue, London, E.C. zzz-49

THE MOTOR MANUAL. The standard book on the car, 230,000 copies sold, 15th edition, revised and up-to-date, 1s. 6d. net, post free 1s. 9d. from the offices of "The Cyclecar," 7-15 Rosebery Avenue, London, E.C. zzz-48

EASY EXITS FROM LONDON AVOIDING TRAFFIC. Illustrated with 21 maps of the greatest use to the cyclecarist, showing how to reach open country without passing through crowded thoroughfares. 6d. net, post free 7d., from the offices of "The Cyclecar," 7-15 Rosebery Avenue, London, E.C. zzz-52

THE MOTOR BOAT MANUAL. The best handbook for all interested in marine motoring, price 1s. 6d. net, or post free 1s. 9d., from the offices of "The Cyclecar," 7-15 Rosebery Avenue, London, E.C. zzz-50

PROFILE ROAD BOOK. The best road book extant. Covers the whole of the country, giving profile plans showing "ups and downs" of the roads. 1s. net, post free 1s. 1½d., from "Cyclecar" Office, 7-15 Rosebery Avenue, London, E.C. zzz-51

SITUATIONS WANTED.

MANAGER, young gentleman would like situation as manager of garage, good knowledge of cyclecars and motorcycles. Box 711, care of "The Cyclecar." 4-196

PRACTICAL and commercial man wishes fresh appointment, motor and general engineering experience, costs, correspondence, well educated, energetic, extensive repair experience with large firm, full particulars. Cyclecar, 40 Grafton Street, Coventry. 4-236

GENTLEMAN, aged 30, with excellent record as live salesman and proved capacity as commercial and sales manager, is enthusiastic over cyclecar movement and seeks position with sound firm handling good car; at present occupying permanent post as general manager at salary £350 per annum, rising, with control of works, selling and clerical staffs, advertising, good organizer, no reason change, except his keenness for cyclecar movement and desire more agreeable employment, experienced motorist. Replies to Box 734, care of "The Cyclecar." 4-255

CONSULTING ENGINEERS, Etc.

PATENTS, DESIGNS, TRADE MARKS. Phillips's, 70 Chancery Lane, London, Chartered Patent Agents (Robert E. Phillips, M.I.Mech.E., and A. Millward Flack, Fel. Chart. Inst. P.A.), specialize in patents relating to motor traction. 27-106

MECHANICAL Details. When in difficulty on points of design, consult Frank H. Jeffree, A.M.Inst.C.E., Wh.Ex. Kelbrook, Stanley Road, Woodford, N.E., Specialist. 4 232
THE live paper for motorcyclists.—"Motor Cycling," 1d, every Tuesday.

GARAGES.

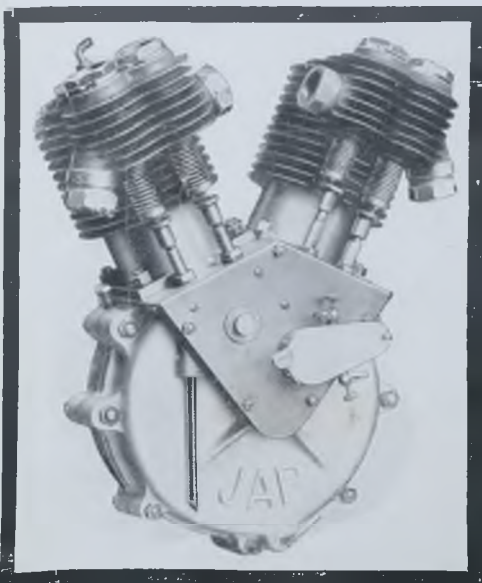
HIGHBURY Motorists note, splendid garage accommodation for cyclecars, etc. Earl's Engineering Works, Kelvin Road, Highbury Barn, N. Trade 4-231

MANUFACTURE.

TO THE CYCLECAR TRADE. Company in the West of London, owning well-equipped factory and highly-skilled labour, specialists in steel tubular and construction, are prepared to manufacture cyclecar chassis or parts for the trade; highest class work and quick delivery; technical calculations and designs undertaken for customers' special requirements. Write Box No. 724, care of "The Cyclecar." Trade 4-225

TYRES.

CYCLECAR and motorcycle tyres, few thoroughly sound to clear, cheap, approval, state requirements. Essex Co., Northampton Street, Islington. Trade 5-245



**Every Cyclecar Record
is held by a**
J.A.P.
engined machine!

— and every record has been well-contested. More manufacturers have pinned their faith to the J.A.P. than to any other engine, and an overwhelming majority of cyclecar owners have declared in favour of it. Specify it on your new machine, and you will have more speed, more power and greater reliability.

J. A. PRESTWICH & CO., Northumberland Park, Tottenham, London, N.
Telephone: Tottenham 1612 (3 lines).
Telegraphic Address "Prestwich, Lower Tottenham."
Agents for Spare Parts—Messrs. Robertson's Motor Agency, 157, Great Portland Street, London, W.

1913 Models
of the **SIMPLE CYCLECAR**
The Sensation of the Olympia Show.

Tandem
Models,
95 & 100
Guineas.

Sociable
Models,
95 & 100
Guineas.



And
The
ROLLO
"PONY,"
70
Guineas.

Catalogues and full particulars from all Agents, or
THE ROLLO CAR CO., Ltd., CONYBERE STREET, **Birmingham.**

AVON

Take
You
Rapidly—
Easily—
Safely—

FOR CYCLECAR WORK

they will give the finest all-round service of any tyre made. Fit a reasonable size of cover to your machine, and if it is an AVON, its great mileage and even wear will make you realise what economical tyre service really means. AVON TYRES have for years been held in the highest esteem in motor and motorcycling circles—a sufficient reason why we can give you the very best and most suitable in cyclecar tyres. Our expert advice is placed freely at your disposal.

THE AVON INDIA RUBBER CO., LTD.

Head Office & Works: MELKSHAM, WILTS.

BRANCHES:

LONDON—35, Long Acre, W.C. BRISTOL—Bristol Bridge. BIRMINGHAM—204, Corporation Street. MANCHESTER—229, Deansgate. GLASGOW—197, Buchanan Street.

