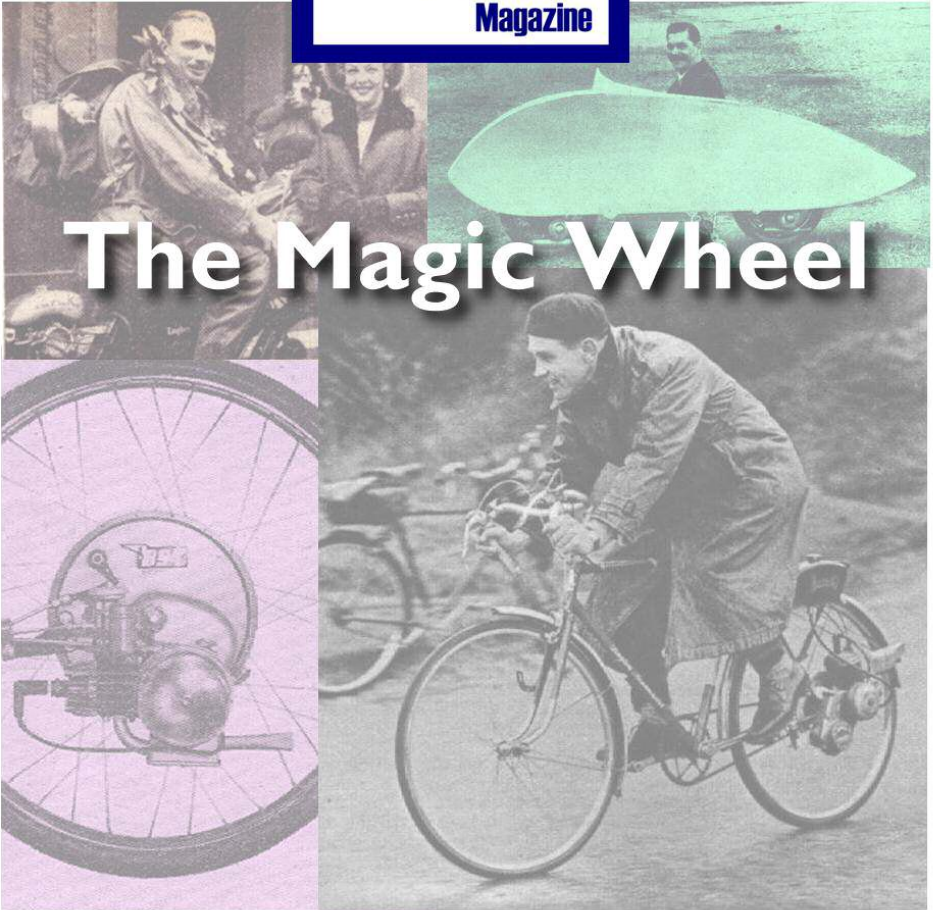


# IceniCAM Information Service



## The Magic Wheel

The

# Magic Wheel

A QUARTERLY MAGAZINE FOR CYCLEMASTER OWNERS

Vol. 2. No. 1.

APRIL 1954

Sixpence



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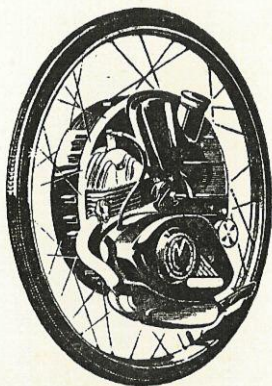
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VOL. 2  
NO. 1

APRIL  
1954



PRICE  
SIXPENCE

Annual  
Subscription  
2/6  
Post Free

# THE MAGIC WHEEL

A QUARTERLY MAGAZINE FOR CYCLEMASTER OWNERS

All communications should be addressed to  
Cyclemaster Ltd., 38a, St. George's Drive, Victoria, London, S.W.1.

## That Test

We continue to receive letters from readers who have failed to pass the test, and quite a few from those who have passed. The former, naturally, are indignant; the others seem to think the test is fair enough.

The comments range from "the biggest swindle ever planned" (from a really annoyed cyclist) to "the test seemed very long, but on the whole reasonable."

The complaint which crops up most frequently is that failure has resulted from an inadequate knowledge of the Highway Code—and the sufferers do not regard that alone as a sufficient reason.

One reader who has been cycling for 34 years, has been a special constable, and done point duty at busy cross-roads was most disgruntled.

The annoyance is only too understandable, but this business has got to be looked at calmly and dispassionately.

In the first place, the law of the land insists upon a test. That law was not imposed by a dictator, but passed

twenty years ago by elected representatives of the people after lengthy debates in Parliament.

Next, everyone who takes the test is warned that he or she will have to prove that they know the Code.

Third—and this is probably the most important point—there are 90,000 users of Cyclemaster in this country alone, and a lot of other cyclists who use other kinds of power attachments. Probably only one or two in every five thousand or so complain, so that by and large the scheme must work.

We shall be ever watchful for instances where an examiner seems to have been unfair; we shall not hesitate to take up cases of apparent unreasonableness or unjustified failing.

But to all those who have yet to take the test we would say—make sure that *you* are not beaten by ignorance of the Highway Code. There isn't much to learn; it is well worth the trouble; and (may we whisper this?) if everyone who uses the roads followed the Code, the roads would be much safer than they are.

The very attractive photograph on our front cover is reproduced by courtesy of "Housewife," the March number of which contained a most interesting article entitled "A Motor of Your Own." It explained simply all about light motor cycles and power-assistance for bicycles.

# GOING ABROAD THIS YEAR?

*This most interesting article is published by permission of the Editor of "The Vauxhall Motorist". Not only does it tell you all you want to know about Continental touring, but we think it will whet your appetite, too (in more ways than one!)*

## Austria

A tourist's delight of mountains and lakes, picturesque costumes and attractive country hotels. The currency of Austrian schillings is favourable to British visitors, and the smaller hotels are usually both charming and inexpensive. Prices are generally considerably higher in such places as Innsbruck, Salzburg, and the White Horse Inn district during the main part of the season—from July 1st to the third week in August. Food in Austria in the smaller hotels and restaurants tends to be plain and wholesome—well suited to most English palates, but without a great deal of variety. Wines and beer are cheap in Austria, but imported spirits, such as whisky, are more costly than at home.

*Price of petrol 4.19 and 4.59 schillings  
a litre*

*1 schilling=3.33 pence*

## France

Little more need be said of France from the scenic point of view than that it contains in magnificent variety a selection of the scenery to be found in Europe generally. For mountains one can go to the Savoy district or to the Pyrenees. For a seaside holiday, there is a wide choice varying from the Brittany coast of Northern France



to that Mecca of sun-worshippers the French Riviera, with its many resorts spreading from Marseilles in the west to Mentone in the east. There is the magnificent river scenery of the Loire and the Rhône. And throughout the country will be found architecture and art treasures equal to any in the world. And then, of course, there is Paris.

As befits a country that has so much to offer, the choice of hotels is enormous. The finest of *de luxe* hotels are there for those who want them; at the other extreme, some of the small hotels of the little towns and villages demand a great love of France from the visitor who is to accept the standards they offer.

Speaking generally, hotel prices in France are reasonable enough for the rooms—subject, of course, to the type of hotel selected—but in the matter of food it is not too easy to make a comparison. The best restaurants and the best cooking in France constitute what most people would consider to be the finest in the world, but with very few exceptions such fine food will cost a great deal of money. Anything between 16s. and 30s. must

# All the "Gen"

**FOREIGN TRAVEL ALLOWANCES:** £50 for each person over the age of 12, £35 for children under 12; in addition there is a "motor cycle" allowance of £10. (These allowances do not apply to Scandinavia, where for all practical touring purposes there are no longer any currency restrictions.)

**DOCUMENTS:** You will need a passport for each passenger, and various documents for the car according to the countries to be visited. The only sensible course is to arrange the documentation through the A.A. or R.A.C., who charge a small fee.

**INSURANCE:** Your insurance company can supply you with a special "overseas touring" card, covering you in the countries you intend to visit.

**CUSTOMS:** Usually quick and straightforward at Continental frontiers; it is well to be prepared for a less cursory examination on arrival back in Britain.

**ROADS:** It can be taken for granted that main roads will present no difficulties; secondary roads on the Continent are, in general, best avoided by those unused to overseas motoring. It is as well to familiarise oneself with the road-signs used on the Continent, which differ from those used in Britain. The A.A. or R.A.C. will help members here.

**DISTANCES:** As broad indications, a tour through France and round Switzerland would involve about 1,500 miles Continental motoring; through Belgium, Germany and Austria to the Tyrol, and back through Switzerland and France, about 1,750 miles; to and from the Italian lakes and Venice, about 1,800 miles; to Rome and back, about 2,000 miles; to the French Riviera and back, about 1,600 miles.

**PETROL:** The prices given at the ends of each of the "country" sections, together with the pence equivalents to the different currency units, are taken from the Shell Touring Service List of Retail Selling Prices. Where two prices per litre are shown, they refer to "ordinary" and "super" grades. One Imperial gallon=4.54 litres

usually be paid for a good lunch or dinner—probably perfect of its kind.

Good meals can be had for less money, but will probably be simple and served in unpretentious surroundings. It must always be borne in mind that in France hotel-keeping and restaurant-keeping are two separate industries. Sometimes they combine to make the perfect hotel—possibly a small one, possibly a large one; but experienced travellers often choose to take rooms at an hotel and to eat elsewhere, at a restaurant of their choice. This may be ideal, but it tends to be more expensive than making *en pension* arrangements at an hotel; and many hotels at holiday resorts are reluctant to provide rooms without meals during the high season.

Beer in France is plentiful, but rarely seems to be to the taste of English beer-drinkers. Wines, of course, are plentiful, and range from the *vins ordinaires*—very cheap indeed—up to the classic wines, for which one pays accordingly.

*Price of petrol 64.10 and 67.50 francs a litre*

1 French franc=0.24 pence

## Germany

At present the German rate of exchange is unfavourable, so touring is on the expensive side unless one chooses to stick to the small inns that

are scattered throughout the countryside. These inns offer simple and very often charming accommodation with plain solid food; but—as in Austria—there is a tendency towards monotony, soup, meat and potatoes and some fruit or cheese constituting the average meal. In the tourist areas of Germany, such as Cologne, the Rhine, the Black Forest, Munich, etc., the majority of hotels are now open to tourists again, but at first-class hotels the charges will be found rather high by British standards; in these hotels, though, will be found a wide selection of excellent food. Beer, of course, is plentiful, and excellent throughout Germany; and fine wines from the Rhine and Moselle districts are available at reasonable prices.

*Price of petrol 0.63 and 0.70*

*Deutschmarks a litre*

1 Deutschmark=20.21 pence

## Italy

Like France, Italy looked at from the territorial point of view has something of everything: the much-famed Mediterranean resorts; some fine, less-well-known beaches on the Adriatic coast; those spectacular mountains the Dolomites and Lakes Como, Garda and Maggiore in the north; Florence, Venice, Assisi, Verona and Rome.

Hotels range from the "grand hotel de luxe" to the small wayside inn;

but, as in France, few British travellers would be satisfied if they dropped below the "medium" standard. Restaurants are excellent and plentiful, and both restaurants and hotels usually offer a wide variety of dishes, all of them very well cooked. Prices vary considerably; in the very small hotels—usually somewhat off the beaten track—prices are low by British standards. At the more popular centres, hotels are inclined to be on the expensive side, and at the big de luxe hotels in the fashionable spots the high-season prices are usually very considerable. Beer of a type is readily available, but more easily obtained are the local Italian wines, which not only suit most tastes but have the advantage of being quite cheap.

*Price of petrol 90 and 100 lire a litre*  
1 lira = 0.13 pence

### Switzerland

If a popularity poll were held among British tourists to find the favourite Continental country, there is little doubt Switzerland would win it. Switzerland's sparkling appearance, its window-boxes of flowers, its general orderliness and cleanliness—all make an immediate and noticeable appeal as soon as the frontier is crossed into the country. Mountains, lakes and rivers combine to offer some of the most impressive scenery in Europe, and the bigger resorts have set themselves out to provide comfort, pleasure and amenities the equal of any to be found on the Continent. The picturesque and colourful villages of Switzerland are a delight to the eye, and account for untold yards of tourists' film during the holiday season.

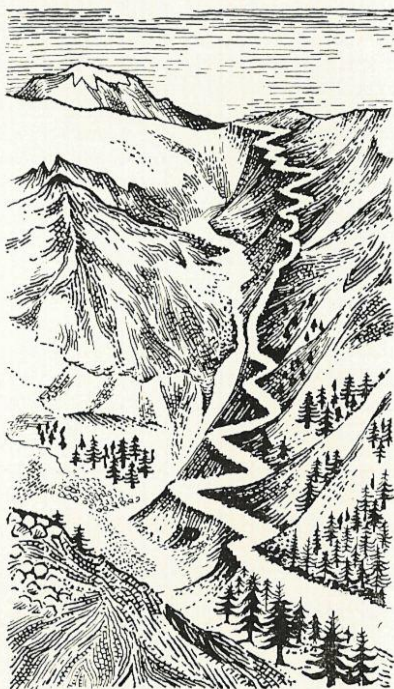
Hotel accommodation in Switzerland reaches a standard not exceeded anywhere. De luxe hotels offer all that could be asked, and small hotels and inns can provide good beds, excellent food and a charming atmosphere. Everything is done in all grades of hotel to make sure that the tourist enjoys his stay to the maximum, whether it be overnight or for several weeks.

Prices for basic hotel accommodation and food are not at all high, and because one can choose the smaller hotels with certainty of satisfaction, touring in Switzerland is likely to be as cheap as in any other Continental country.

On the other hand, it must always be remembered that the various extra items that one buys on holiday can be quite costly, because the Swiss rate of exchange is not favourable to the pound sterling.

Afternoon teas, coffee, cream cakes, chocolate, ice cream and such-like extras can soon add up to a daily cost that exceeds what is being paid for room and meals. Beers, wines and spirits can be had in variety, at prices that will vary with the type of establishment in which they are purchased; at a first-class hotel drinking will be expensive, at a road-side inn very cheap.

*Price of petrol 0.60 francs a litre*  
1 lira = 0.13 pence



# "OVER the MOUNTAIN PASSES"

By C. R. Nason

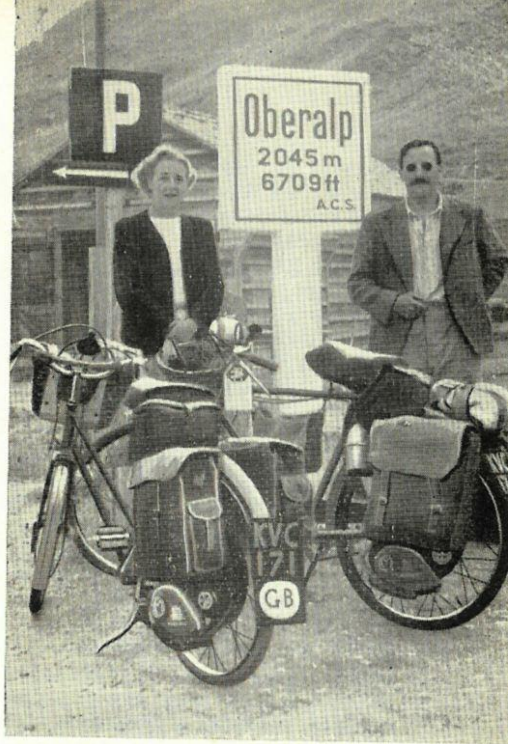
One day last year we set off from Dieppe and from there made our way across France by way of Beauvais, Senlis, Meaux, Sens, Auxerre, and so to Dijon. This part of the journey caused us no trouble, as the gradients were on the whole gentle and well within the power of the Cyclemasters.

After Dijon we met more hills and mountains as we continued. The Jura Mountains we crossed by the Col de la Faucille (4,340 ft.). This called for some stiff pedalling on the part from Morez—and the rest at the top was very welcome. After this we dropped down to Geneva, where we stayed two days.

From Geneva we continued along the South shore of Lac Lemman, past Martigny and then along the Valais, following the Rhône as far as its source. The climb up to Gletch at the Rhône Glacier was very unpleasant because the road was being re-made for a distance of some ten miles and for the whole of this distance the entire surface consisted of mud and deep ruts which made cycling quite out of the question.

## Sticky Mud

After Gletch, we started the ascent of the Furka Pass (7,976 ft.), the second highest pass in Switzerland. The combination of the gradient and even more the surface—similar to that of a poor country lane in England—and the covering of a layer of sticky mud caused by heavy rains during the previous night, proved too much for our Cyclemasters, which were heavily laden—each carrying two panniers of luggage. We found that the engines



"Heavily laden—each machine carrying 2 panniers of luggage."

could pull the cycles up all but a few of the steepest parts, while we walked and guided them. The view at the top was unfortunately obscured by cloud.

The next day we made the crossing of the Oberalp Pass (6,709 ft.). Here we found that it was only occasionally that we had to dismount, again the surface being the determining factor. Descending the other side of this pass brought us into the valley of the Rhine, which river we then followed to its mouth.

From the Oberalp Pass we met with no serious hills, though of course we had occasional short rises. The main trouble was the poor state of the roads in Germany. Pavé is not designed for cycles, and as a consequence we had to travel long distances at very slow speeds, resulting in choking of the exhaust system. On one occasion the fish-tail of one of our cycles was completely blocked.

We finished the Continental section of our holiday in Holland. On the last day we got on one of the Dutch motor roads leading to Dordrecht.



There, after having bumped and bounced our way over half Europe, after having driven our Cyclemasters hard and without rest or attention for three weeks, we had the pleasure of covering  $10\frac{1}{2}$  miles at an average speed of  $22\frac{1}{2}$  m.p.h., and went on to cover 24 miles in 70 minutes, an average of a trifle under 21 m.p.h.

During this time we had covered 1,379 miles and had used 55 litres of petrol between us, giving an average consumption of 241 miles per gallon.

We had averaged  $62\frac{1}{2}$  miles a day, the longest day being 87 miles and the shortest 20. This distance was well within the capability of the engines, but was rather too long for us as we did not have sufficient time to see all that we should have liked.

### Hull to Edinburgh

On arriving back in Hull we turned northwards and went to Edinburgh. Some of the Yorkshire hills, though short, proved too steep for us to ascend without walking for part of the way.

On the return trip to Coventry we came along the West Coast route. Again we had no trouble at all. On the British part of our holiday we covered 619 miles and used  $6\frac{1}{2}$  gallons of petrol—which gives an average of 206 m.p.g.

### No Trouble at All

The lower average consumption at home compared with that abroad was due largely to the fact that abroad we always used the better-quality spirit and that during the whole of the trip southward we had strong and persistent head-winds. For the whole holiday the consumption worked out at 236 m.p.g. for the two cycles. As one weighed just over and one just under a hundredweight without the riders, and as both have been in constant use for 15 months, this is, I think, quite creditable. We had no mechanical trouble during the whole of the time we were away, and the only attention the engines received was the occasional clearing out of the exhaust ports and fish-tails.



*These two machines, each weighing around a hundredweight without rider—covered 1,379 miles on the Continent and then 619 in Britain "with no mechanical trouble during the whole time."*

## **CYCLEMASTER CLUB NEWS**

# **“What about this Noble City?”**

**. . . . asks a Manchester reader**

*And we are able to give him, and other Cyclemaster owners in the district, some news.*

Mr. G. H. Greenhough, whose picture you see below, is the Founder and Organising Secretary of the Manchester and Salford and District Taxi Association. He is nearly 72, but rides around these two great cities, from rank to rank, on his Mercury bicycle with Cyclemaster wheel—“the greatest pal a man could have,” to use his own words. “I have been a motorcab owner in this City from the time they first came out,” he says, “but oh! the joy and pleasure you get by riding in the open air on a Cyclemaster.”

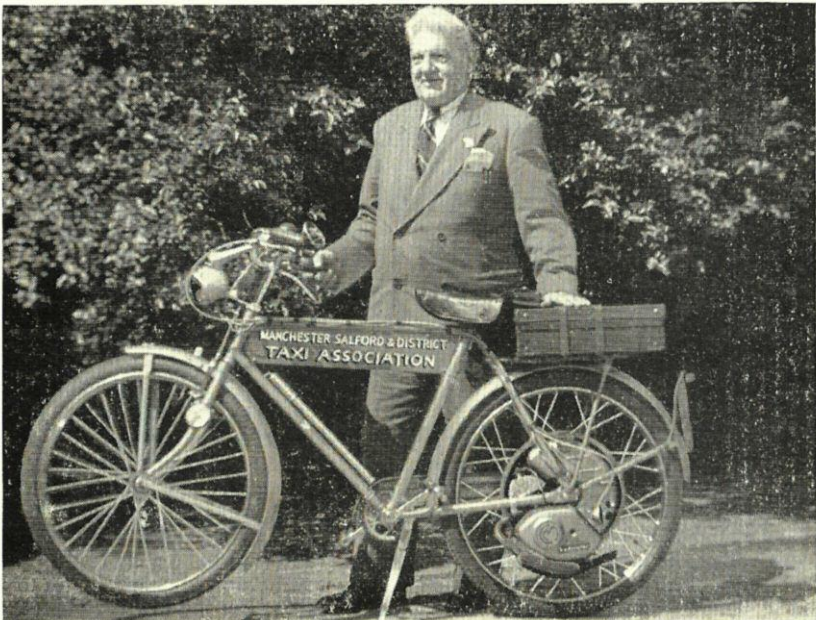
Mr. Greenhough was very interested in the news given in our January number that a Cyclemaster Club had been started in Edinburgh, and that led to his question, “What about this noble City?”

Well, sir, we are now able to tell

you something very definite. You have some fellow citizens equally enthusiastic, and one of them has already undertaken to organize a club. He is Mr. Tom Lee, of Saxon Jefferis Ltd., 674 Wilmslow Road, Didsbury, Manchester, 20. He cordially invites enquiries from any Cyclemaster owners in the area who are interested in getting together to form a club.

So now, Mr. Greenhough, it is over to you—and we are sure you will help to spread the good news. Mr. Lee will be hearing from you.

The club idea is catching on in other parts of the country. Various schemes are afoot, and we hope to be able to give a lot more news in our next issue. In the meantime, will any reader who is willing to take the first steps in starting something in his own area, write and let us know?



# FOUR-STROKING

By

The Engineering Manager

Petrol-driven engines fall into two main groups—four-stroke and two-stroke.

Generally speaking, most motor-cars have the former type; motor-cycles have either, and all cycle auxiliary engines are two-strokes.

The difference is fully and clearly explained, with simple diagrams, in your instruction book, so that there is no need for us to get too deeply involved in the subject in this article. But the important differences must be mentioned.

## One Push in Four

With a four-stroke engine, the piston has to go through four movements in order to give the car one good push. First it goes down, sucking in an explosive mixture of petrol and air. Then it goes up, to compress the mixture. Next an electric spark sets fire to the mixture, and the piston is driven down—that is the power stroke (the “one good push”). Finally, the piston goes up, driving out the burnt gases.

The four strokes are then repeated, and go on happening all the while the engine is running.

## This Way Out!

With a two-stroke engine, as the name implies, the sequence of operations is reduced by half, so that *every* downward movement of the piston is a power stroke—or should be. This is achieved by a most ingenious method of introducing each fresh charge from *under* the piston while the burnt gases are being pushed out the other way!

Any two-stroke engine is a most interesting instance of how lots of things can be made to happen at once—and go on happening. But, as with every other kind of mechanism, it must be looked after if it is to work efficiently.

I have already explained how the fresh mixture enters by one door, and the burnt gases go out by another. Actually, the fresh charge helps to push the old one out. Provided the exit is not obstructed, everything in the garden is lovely, but if that exit is clogged, the used-up gases won't be able to get out quickly enough, and there will be, so to speak, a traffic jam, which will interfere with the proper running of the engine. One result of this state of affairs is what is known as “four-stroking.” In other words, instead of getting a good push every time the piston goes down, it happens only every other time. In fact, if the engine is very badly neglected it may produce a power stroke only every now and again—perhaps every fourth time, or even only once in eight!

The most common cause of this trouble is the obvious one—any obstruction in the way out. If either the exhaust port, or silencer, or both, are badly clogged, the exhaust gases won't get out quickly enough; the fresh won't be able to get in; and you get to the stage where the sparking plug goes red in the face through constantly trying to set fire to gases that have already been burnt. And there's no future in that! To prevent it, keep the engine clean, free from carbon, and properly adjusted.

## Taking it Easy

Four-stroking *can* occur even in an engine which is in perfect trim. If you are going along very easily, with the throttle open only a little way, the restriction on the entry of new gas may mean that sufficient pressure cannot be built up to drive out the burnt gases, so that again the spark is trying to light something that won't burn. But as the piston continues to go up and down, more new gas continues to enter, until at last the mixture ignites.

This is a purely temporary condition, which you can cure by opening up slightly immediately you notice the erratic firing.

Another cause of four-stroking is a mixture that is too rich. A "dewy" mixture of petrol and air is very loath to burn, and if you get an explosion at all it will consume the air (all of it) but only part of the petrol—so that the next charge will be so rich that it may not burn. Under these conditions the power strokes will either not happen at all, or occur erratically. Carbon will form very rapidly, and the four-stroking will become worse.

If you are experiencing four-stroking, and are quite sure that silencer and exhaust port are clear, have a look at the air cleaner. If that is choked, the entry of air will be restricted, and the mixture will be too rich.

### **Clean the Air Cleaner**

If the air cleaner is O.K., then the next step is to weaken the mixture in the way described in the instruction book—it is simply a matter of a turn of a screw on the Bletchley carburettor fitted to all current models. On the Amal (fitted to earlier produc-

tion) there is a little more to do. The carburettor must be removed so that the position of the tapered needle, which fits into the throttle piston, can be altered. To weaken the mixture the needle should be lowered, and to enrich the mixture it should be raised.

A final tip. If you do weaken the mixture, always make a test, after you have covered a mile or so, to make sure you haven't weakened it too much. All you need do is take out the spark plug and have a look at it. The surfaces which are exposed inside the engine should be a reddish-brown in colour; if they are sooty-black the mixture is too rich; if they are covered with a white ashy substance, it is too weak and the engine is running too hot.

### **Just a Nuisance**

Four-stroking is always a nuisance, but of itself is not likely to harm the engine; you'll just waste a lot of petrol, and have to decarbonise very frequently. You may oil up the plug a lot.

Before anything serious could happen, the four-stroking would have to become so bad that the machine would be pretty well unusable.

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## **OUR SNAPSHOT**

## **COMPETITION**

We regret that owing to very great pressure on our space, we have been unable to find room for any of the prize-winning pictures in our Snapshot Competition; we hope to publish a good selection in our next issue, but in the meantime, prizes will be sent to the following readers: Mrs. Barron (Halifax); Mr. Conlan (Dublin); Mr. C. R. Hill (Rugby); Miss Jean K. Milne (Stoneleigh, Surrey); Mr. F. Palmer (Exmouth); Mr. J. M. Snowdon (Manchester); Miss Thelma Watts (Northumberland); Mr. K. V. Williams (Wokingham); and Mr.

T. R. Williams (Carshalton, Surrey).

We welcome interesting photographs, but please do send us good sharp prints, as large as possible. If they are small and fuzzy, it is impossible to print from them, and all we can do, very regretfully, is return them.

When writing on the back of a print, please do so as lightly as possible. If you press heavily, the marks come through, and this also means that the picture cannot be reproduced.

# THE THINGS YOU SAY!

We receive hundreds of letters every week, and they are all dealt with promptly by post. Most of them deal with matters of interest only to the owners concerned. When points of general interest are raised, the letters, with brief comments, will be set aside for publication in this feature.

## No Tinkering

Dear Sir,

With regard to the article "Do You Tinker?" in the last issue, I could not agree more with the remark that ladies get the best results because they do not tinker at all.

I have had my Cyclomaster since July, 1951, and the mileage now registers nearly 4,000. I consider its perfect performance largely due to the careful measuring by myself of the correct grade of oil to petrol, keeping the wheel thoroughly clean, and definitely no tinkering beyond the routine checks as advised in the instruction book. It had one decarbonization at 1,400 and nothing else since.

I am just an ordinary housewife—not a young one at that, having had my twenty-first birthday a very long time ago—but I certainly prefer a Cyclomaster to a car for shopping and all other local journeys.

Ashtead. Mrs. G. B.

*(Mrs. G. B. would undoubtedly agree with another lady who remarked, "the less you know about spanners and things the better it seems to go!"—Ed.)*

## "Boots, Boots, Boots!!!"

Dear Sir,

I feel a cad exploding the delusion of R. R. of Wigan, who claims a saving of 5s. 4½d. (as against the cost of shoe repairs) per 300 miles. Apart from the cost of petrol and oil, he should—assuming a mileage of 100 a week—add 3/52nds of the cost of his Road Fund Licence, of his Driving Licence, and his Insurance. I bring those amounts to a total of 2s. 3d. If he bought cycle and wheel outright,

there is loss of interest on capital, which comes to around 1s. 3d. Lastly, without being too finicky, there are tyres, maintenance and depreciation.

After all, how can one expect to travel comfortably and without effort and five times as fast as walking at less expense?

Bristol.

A. O. W.

*(We wondered how many readers would spot the shaky financial basis of the letter which R. R. sent. So far the above is the only letter we have received on the subject. A. O. W. is dead right, of course.—Ed.)*

## Sticky Throttle

Dear Sir,

On two occasions recently I have had the throttle of the carburettor stick, or jam. I dismantled the carburettor, and followed your tips in the October issue, but still had to pedal. I studied the working of the carburettor, and came to the conclusion that if the throttle was sticking, a few quick movements of the throttle control might free it. So I tried opening and closing the throttle rapidly half a dozen times—and she went like a rocket. Was I just lucky?

Hull.

F. G.

*(Not a bit. The action you took was quite logical, and is worth trying before going to the length of taking the carburettor to pieces.—Ed.)*

## Good for Fishing

Dear Sir,

I have recently completed 25,000 miles on my Cyclomaster, which I bought in April, 1951. I have nothing but praise for the splendid little engine and never fail to recommend it when occasion arises. I am interested in angling, and the machine not only

carries me, but my fishing tackle, too. That weighs approximately forty pounds, and at least 10,000 of my 25,000 has been done on fishing expeditions.

Tipton.

S. B.

*(The great advantage of Cyclemaster over bus or train is that the last one doesn't leave just as the fish are beginning to co-operate!—Ed.)*

### Can you Beat It?

Dear Sir,

My Cyclemaster, purchased over two and a half years ago, has travelled over 30,000 miles and is still giving excellent service—as is my wife's machine, purchased a month or so later than mine.

Iver Heath.

H.R.

*(That really is a wonderful record. We wonder if any reader has covered a greater mileage? If so, we would very much like to hear from him—or her.—Ed.)*

### Two Rear Lamps

Dear Sir,

Is it possible to use two rear lights with a Cyclemaster?

Coventry.

G. R. M.

*(Yes, sir. You need 6-volt bulbs, and altogether your front and rear lamps must add up to exactly nine watts. So if you have a 6-watt head-lamp, your two tail lamps must be 1½ watts each.—Ed.)*

### From a Motorist

I have driven the best makes of cars and had experience with motor-cycles, but nothing has given me the pleasure that my Cyclemaster gives. It sits on the road and gives me all the speed I want.

C. P.

Welwyn Garden City.

*(Nice of you to tell us, sir.—Ed.)*

### Dress Guards

Dear Sir,

As a parson's wife, may I add my tribute both to your interesting magazine, and to the invaluable help which

Cyclemaster gives to a parson and his wife, who have to travel a lot and cannot afford a car. We wouldn't be without our machines for anything.

Dare I, however, voice two criticisms?

First, there is no skirt guard on the back wheel, and coats and dresses get caught, causing danger and damage.

Second, both my husband and I have constant trouble with our rear lamps. Jolting on bumpy roads dislocates the wiring, causing the lights to flicker, or expire altogether.

Mrs. L. P. N. S.

Hemel Hempstead.

*(The first one is easy. A very serviceable plastic dress guard which does not interfere with engine cooling, is now obtainable for three shillings from Cyclemaster dealers. With regard to the rear lights, the wire which runs to them should be tough but flexible; connections should be made by means of substantial terminal tags, and the lamps themselves should be fixed with adequate screws and lock-washers. The screws should be checked for tightness at least once a month.—Ed.)*

### Candlestick Maker

Dear Sir,

I enclose P.O. to cover my next year's subscription to *The Magic Wheel*. The past four issues have given me great pleasure, and I eagerly look forward to the next.

I was very amused when you said you knew of butchers and bakers who used Cyclemasters, but no candlestick maker. Well, I have made hundreds of candlesticks in my time, all sizes and shapes, both in clay and wood, so you are now entitled to boast of your candlestick maker. I wish your magazine and your machines every success; they are both worth all the praise one can give.

Farnham.

W. N.

*(That's fine, W. N. Thank you very much. Now let's start on the other old jingle: "Tinker, tailor, soldier, sailor . . ." and so on. Hands up any tinkers?—Ed.)*

# PUTTING THEM THROUGH IT!

By W. H. Griffith

*No oil in the petrol . . . no cylinder cooling . . . "flat out" for hours . . . water sprayed constantly on the magneto . . . that's the sort of thing that goes on at the Cyclemaster research and development depot.*

Have you ever been in South-West London or Surrey and noticed a Cyclemaster rider pass the same point several times in a few minutes?

If so, you have probably seen one of the test riders from our Battersea depot, patiently lapping a circuit of two or three miles to test the engine under the special conditions represented by that bit of road

On the other hand, you may have seen one of our engineers who ride as their job, or a non-technical member of our staff who will give a layman's opinion of a new design. Whichever team the lone rider belongs to, he has probably ridden that Cyclemaster several thousand miles in widely varying conditions, to find out how much shaking, bumping, under-lubrication, mal-adjustment and abuse some new part will stand.

Another aspect of our development programme is laboratory testing—by which parts are tested in accurately controlled and measured conditions, more sustained and severe than road riding.

## Someone gets an Idea

Perhaps someone produces an original idea for a modification to an engine part, with the object, say, of making servicing simpler. After careful planning, prototypes of the new part are made, often by hand. These are then built into standard Cyclemasters which are fitted into test beds of the type shown in the photographs.

One engine may be run "flat out," another at idling speed, and a third under conditions of high engine temperature and severe vibration.

After a testing equivalent to a thousand miles or so on the road, each engine is dismantled for examination, and the test results are analysed. Has the new part worn or distorted? Has

power output been altered at any point in the speed range? Is any other component affected by the design change? Most important of all, has servicing been made easier?

Further modifications of the new part may be necessary, or special test equipment may have to be designed and built before the bench runs are resumed.

## Over and over Again

This whole procedure—test, examine, modify, test again—may be repeated many times before our engineers are satisfied that the new part can go on to the next stage of its development—road testing by one of those "lone riders." The same Cyclemasters, complete with the prototype parts, are used for the road tests.

If the prototype parts stand up well to intensive road testing, samples are next made by standard production methods, and then those parts are again put through the whole process of bench and road testing to ensure that they are as good as the prototypes. Not until they have been thoroughly proved is the new design accepted as suitable to be incorporated in production Cyclemasters.

A very large proportion of apparently excellent ideas are rejected because they do not pass one or other of these tests—only the best survive.

The test beds consist basically of a frame in which a complete Cyclemaster can be run. The tyre drives a steel roller coupled to an adjustable brake by which torque, or twisting power, developed by the engine is measured.

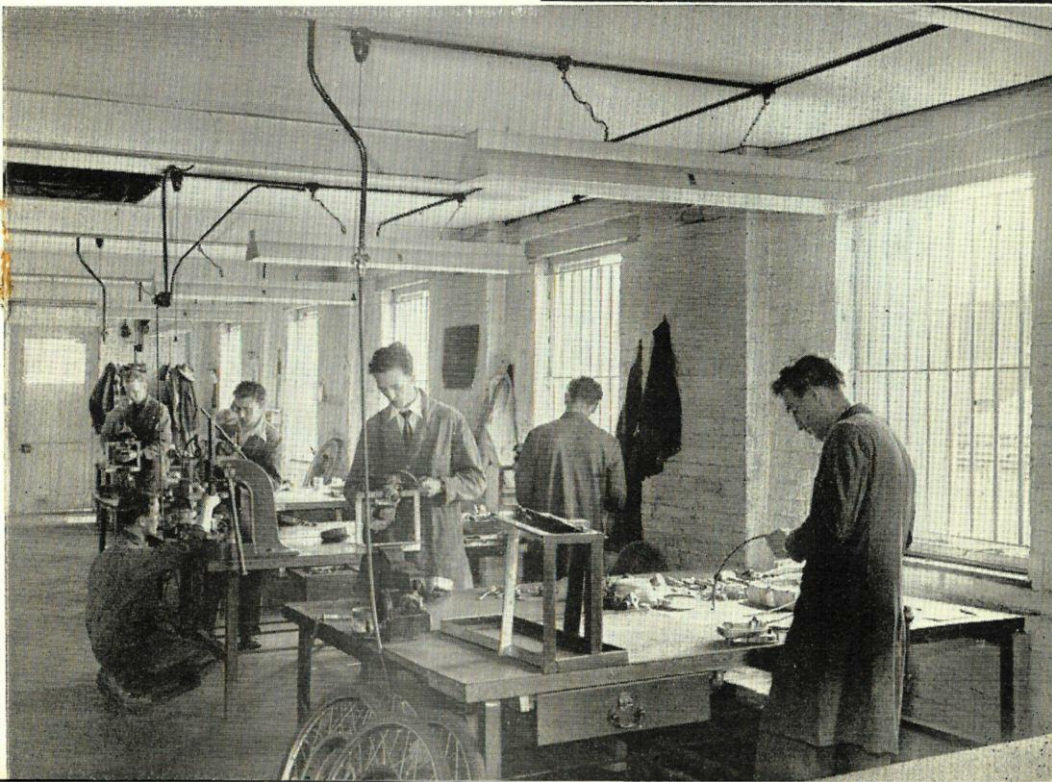
The engine is cooled by an electric blower, and the exhaust gases are carried away by flexible tubing. Various instruments, including speedometer and mileage recorder are fitted,

and additional equipment can be added to measure such things as generator output and temperature at different parts of the engine.

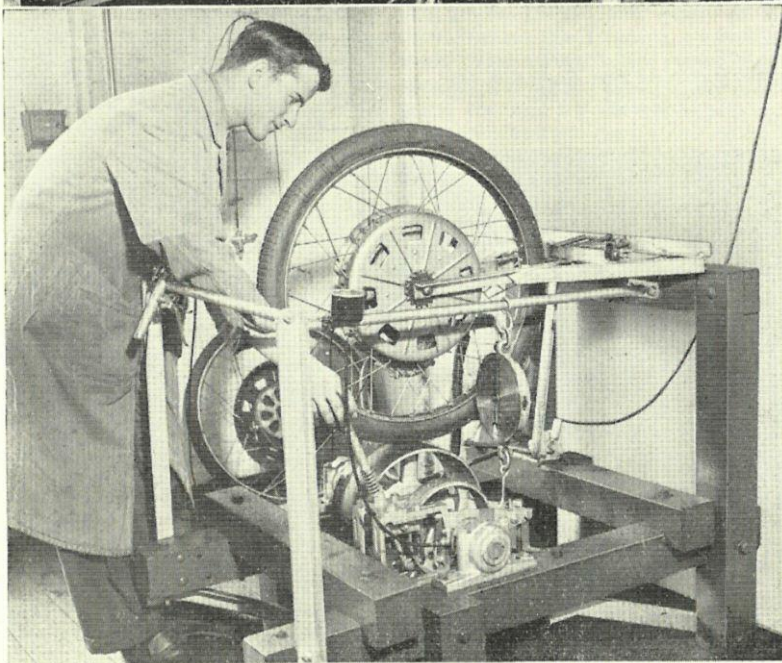
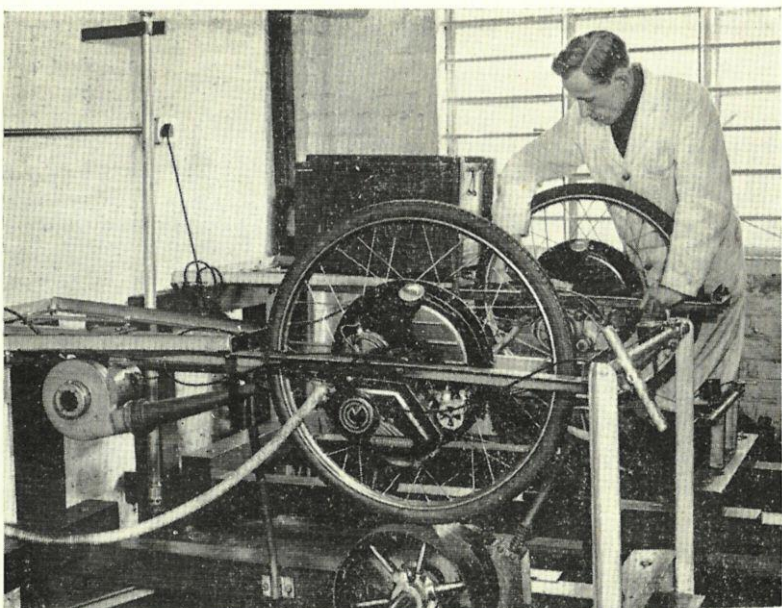
When the engine is taken to pieces after a run, a great deal more information is obtained about its performance by careful examination and measurement of the components. For example, the distribution of carbon formation is recorded photographically, so that comparison tests can be made with different petrols and oils, and under differing conditions of temperature, load, and so on.

Some of the more severe tests carried out in our research department have included the running of engines for long periods without any cylinder cooling; with high spindle weight over severe artificial bumps at double the normal maximum engine speed; with water being continuously sprayed on to the magnetos; and even with no oil in the

*Below, a general view of one section of the Cyclomaster experimental shops. On the right, a new type exhaust system is tested with special scientific apparatus*







Two close-ups of wheels being tested—the one below had covered the equivalent of 8,000 road miles (when the photograph was taken) at the rate of 250 miles a day. By means of weights, test wheels can be subjected to normal—or abnormal!—loads. They are run at normal speeds, double normal speeds, bumped, shaken and generally given a much rougher handling than ever they would get in ordinary use

petrol! In the latter instance, the engine ran, slowly and with noisy protest, for over 400 miles before failure. We do not, however, recommend any reader to try this experiment.

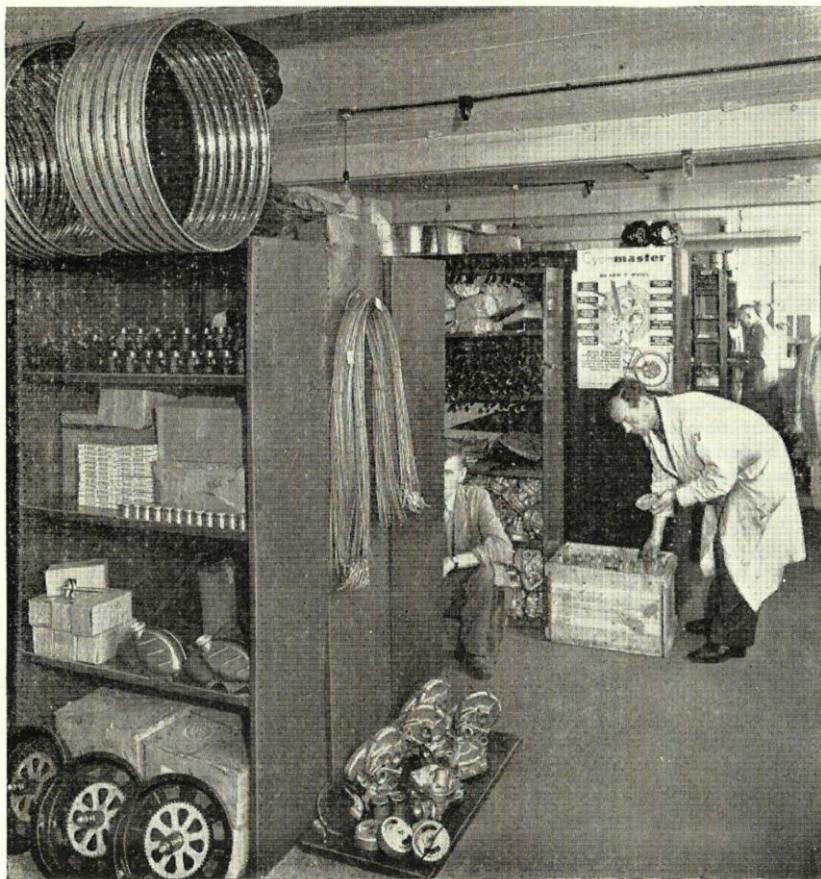
In the same Battersea premises are our service workshops. Here Cyclemasters are overhauled or brought up to date, as the owner requires. Each unit is completely dismantled, so that every part can be examined. After re-assembly, the unit is run on a test-bench similar to those in the research department, to ensure that it is up to standard.

Much of the space at the Battersea depot is taken up by our parts department. From here go out all the

spares, modification sets, and special tools for the 1,400 Cyclemaster dealers in the United Kingdom, and for dealers in countries all over the world.

In the racks and bins are stocks of each of several hundred different spares, from wheel assemblies down to tiny washers, for Cyclemasters of all models.

The staff of this department pride themselves on their skill at identifying parts from a description such as "the bit that fits under the edge of the part that holds the bracket to the engine," but have yet to find a method of dealing with orders sent in without the sender's name or address! You'd be surprised how many they receive.



*One corner of the Parts Department, where hundreds of items, from complete wheels to tiny washers, are stocked*

# KEEPING YOU UP-TO-DATE

By The Editor

In the third number of this magazine we gave details of various modifications which had been made to Cyclemaster since the introduction of the first wheel.

The point was made that, unlike a motor car, which may easily become obsolete when the model is changed, even the oldest Cyclemaster can be brought up-to-date by the owner who is prepared to buy the necessary parts.

It will always be our policy to keep our readers fully informed of all changes, and we implement that policy this month by giving details of two modifications which have been made since that article was published.

## Easier Decarbonizing

The first is a different kind of cylinder head, which simplifies decarbonizing by making it unnecessary to remove the engine from the wheel. Any existing 32 cc engine can be easily modified, and we advise any owner who is changing from the 25 cc to the larger engine to make sure he gets the new head.

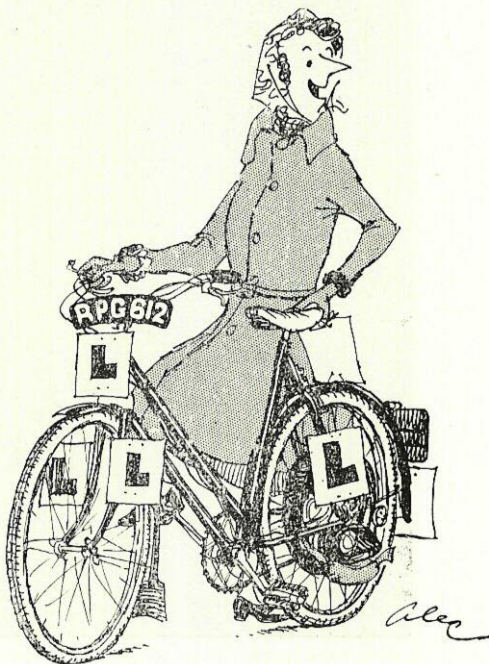
To carry out the conversion, the engine must be removed from the wheel, and the old head taken off. Then the three studs which go right through the cylinder must be withdrawn and replaced by three shorter studs (part number B 13). The new cylinder head (B 07) is then fitted, and secured with three new cylinder head nuts (B 02). The total cost of the new parts is only 11s. 6d., and if you prefer your dealer to do the job the labour charges should come to between a pound and thirty shillings, depending upon whether you have any other work, such as decarbonizing, done at the same time.

There is no difficulty about modifying an existing 32 cc cylinder head, if you have the equipment to do it. It is

just a matter of drilling out the stud holes to 11/32". The new studs and the new nuts will still be required.

## New Exhaust System

The other development is a new exhaust system. Except that it has no fish-tail, it looks much the same from the outside as does the older type. Its advantage, however, is that it can be dismantled for cleaning, and that there is no fish-tail to become blocked. The new exhaust costs 16s. 9d. with the necessary washer, and fitting it involves no more than taking off the old one and replacing it with the new. If you let your dealer do the change, the charge for labour should not be more than three or four shillings.



"You have been warned!"

# JUST TICKING OVER . . . By The Idler

In my notes in the last issue, I mentioned that a reader had written to tell me that my *nom-de-plume*, "The Idler," had very distinguished literary associations. He wasn't too sure what those associations were.

Well, another reader has now told me. "The Idler" was the title of a series of essays issued by none other than the one and only Samuel Johnson, LL.D., round about 1759-60.

I shall not get swollen-headed. As I explained before, when an engine is ticking over it is idling, and there is no deeper meaning behind the whole business than that.

\* \* \*

A Clergyman wrote to say that in his part of the world (Droylsden, Manchester) there is at the moment an interesting example of the importance of sheer idleness, and related the following true story.

A visitor was being shown over a cotton mill by the owner. In the weaving shed the visitor saw a workman sitting quietly reading a newspaper, who did not show the least concern at being caught by the boss. When they passed the same spot again at the end of the tour, there was the same chap, still reading.

As the owner was obviously quite aware of the fact that one of his employees was idling, the visitor thought that no harm could be done by mentioning the matter and asking if there were an explanation.

"My dear fellow," was the reply, "I gladly pay that chap to do nothing. You see, he is the expert who carries out minor repairs to the machinery, and so long as *he* is idling I know that every loom is working."

I love the ending of the clergyman's letter. After begging me not to be ashamed of my *nom-de-plume*, he concluded, "There are some kinds of

idling which apparently are of great service to the community. As a parson (parsons have the reputation of doing a spot of real work only occasionally on Sundays) I take great comfort from this thought myself!"

\* \* \*

The Editor has asked me to touch upon the subject of tandems. We have had many letters from enthusiastic users of tandems who have found the Cyclemaster a very great asset. We also receive occasional letters from others who feel that the engine is not powerful enough to stand up to tandem work. And now we have been asked to devote a page or so to "Tandem Topics." One reader puts it this way, "We want an opportunity to ask and answer questions, and we believe many other readers do, also."

Let's deal with the first point first— is Cyclemaster man enough to stand up to tandem work? Most definitely yes. Our own research, and the experiences of many users, have proved that there is no question of its not being powerful enough. You will not get the same speed, or the same petrol consumption, as with a solo machine, but you will be surprised at the great assistance the engine will give—and that, after all, is the basic purpose of the wheel.

\* \* \*

So far as running a regular question-and-answer feature on tandems is concerned, the things I said some six months ago about the exchange of idea and experiences in a quarterly magazine still apply, with the same force. The time-lag is so great that it would be impossible to maintain interest. This magazine will be published in April; if a query reached us just after it was issued, that query could not possibly appear before June, and it would be September before

any replies or reactions could be published.

If any tandem user wants a word of advice, he has only to write to Cyclenaster Limited to get it in the course of a post or so. If the point is of unusual interest, it will be passed on for publication—and the time lag won't matter so long as the original writer has received the information or help he wanted *quickly*.

\* \* \*

I have a profound admiration for those who can write verse that rhymes, and take off my hat to M.A.S., of Gloucester, who sent along four quatrains, of which I have room to quote two only:

*Some fear the traffic on the road,  
Some disregard the Highway Code;  
I don't do either, but I hate  
The sunken hydrant lying in wait.*

*City Surveyors who read this rhyme,  
Please give a thought to us some  
time,*

*And save our nerves from sudden  
shocks*

*And bikes and engines from hard  
knocks.*

\* \* \*

Another piece of poetry reached me from the Commercial Motor Garage of Merton Park—who must be enthusiastic Cyclenaster dealers. Here are their lines:

*Cyclenasters save your strength;  
Miles seem just like yards in length.*

*Cost of running—very low;*

*Make the push-bike seem so slow.  
City street or country lane*

*Managed without fuss or strain,  
Carefree riding, safer; faster*

*Make sure—buy a Cyclenaster.*

\* \* \*

As soon as you fit any kind of engine to an ordinary cycle, you convert it (in the eyes of the law) into a motor vehicle.

Now a motor vehicle, like a bicycle, must be fitted with some means by which the rider or driver can give 'audible warning of approach.' But whereas a bell is quite satisfactory for a bicycle, it is specifically prohibited on any kinds of motor vehicles except fire engines or ambulances.

Unless the law has changed since I wrote a book on the subject (that shakes you, doesn't it?) a motor vehicle is also prohibited from carrying a gong or a siren. Presumably you could, if you wished, carry a wooden rattle or bang a dustbin lid, but they would both be rather cumbersome methods, and on the whole it is not a bad idea to play safe and fit a small hooter. The law is quite serious about this, and while you are hardly likely to be sent to penal servitude for a first offence, if you do carry a bell you mustn't be surprised if a policeman stops you sooner or later.



"Audible warning of approach."

\* \* \*

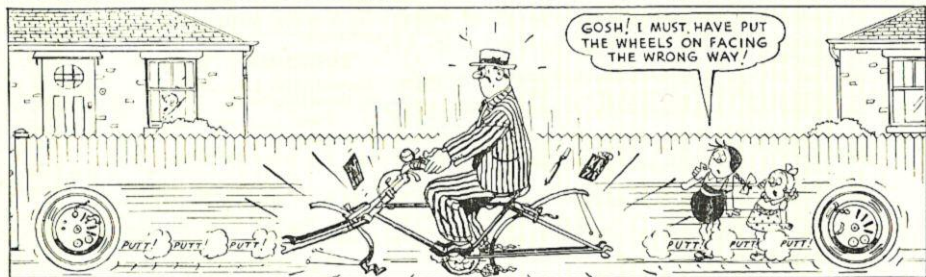
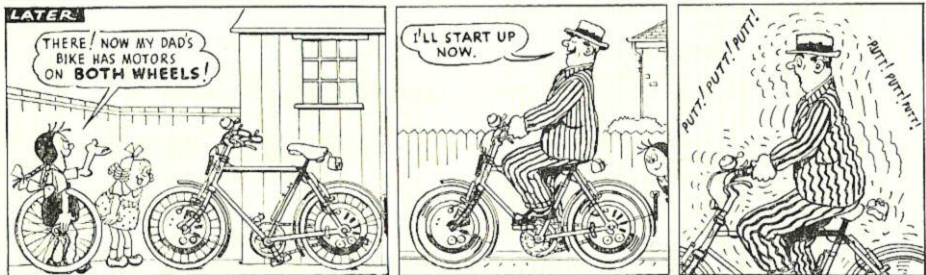
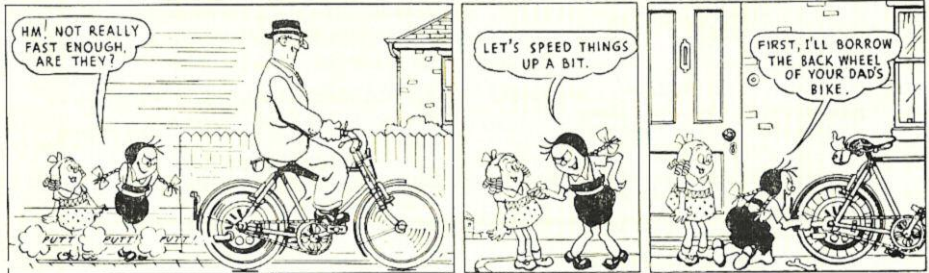
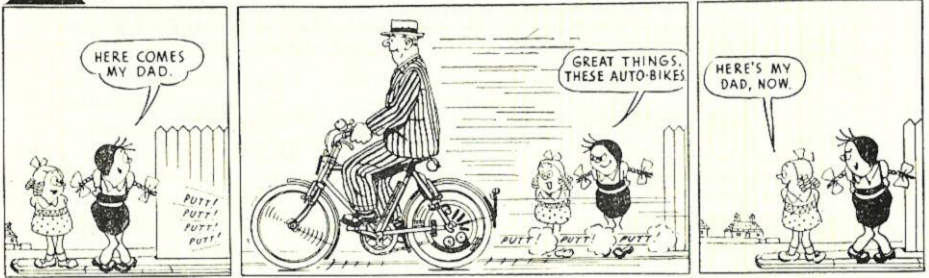
A day or so ago I was chatting with a very old friend of mine, who I had not seen for some years. As he happens to be the motoring correspondent of a newspaper, I took the opportunity of protesting, in the friendliest possible way, of course, about the terms "phut-phuts," "pop-pops," "pip-squeaks," and so on, which he and his colleagues use to describe cycle-motors. He astonished me by saying that these expressions were used, "because the public like and expect them."

\* \* \*

Is that really true? You, who are reading these words now, whoever you may be, represent the public, or part of it, anyway. Do you like to be told, by a writer on a responsible newspaper, that you ride a bicycle fitted with a "phut-phut"? I cannot believe that you either like or expect it, and it might not be a bad idea if one or two members of the public dropped a line to the gentlemen concerned. They are awfully nice chaps, but they do get these queer ideas.

Beryl feels an awful dunce—when Dad's bike goes two ways at once!

# BERYL THE PERIL



Reprinted from "The Topper," by arrangement

SOME OF THE 1400 POINTS WHERE YOU CAN GET GOOD

# Cyclemaster SERVICE

Many readers have asked us to publish a list of all dealers from whom they can obtain service and parts : that we are afraid, would occupy too many pages. On the other hand, there are many dealers who wish to advertise such service, and here is the first list. Dealers who wish to be included in future lists can obtain full details from Cyclemaster Ltd.

	Telephone		Telephone
<b>BEDFORDSHIRE</b>			
BEDFORD. J. P. Simmons & Sons Ltd., 43-49, Tavistock Street.	2984	<b>LINCOLNSHIRE</b>	
LUTON. Dickinson & Adams (Luton) Ltd., Bridge Street.	3535	GRANTHAM. Grantham & District Motor Cycle Centre, 6, London Road.	789
<b>BERKSHIRE</b>			
READING. Great Western Motors (A City Motors, Oxford, Branch), 12-14, Station Road.	3036	<b>LONDON</b>	
<b>DEVONSHIRE</b>			
PLYMOUTH. P. Pike & Co., Ltd., 88, Union Street.	3108	WALTHAMSTOW. Jack Nice, 129, Grove Road, E.17.	Coppermill 1920
<b>DURHAM</b>			
DARLINGTON. White Bros. (Darlington) Ltd., 205-209, Northgate.	2379	<b>MIDDLESEX</b>	
<b>ESSEX</b>			
CHELMSFORD. County Motor Works (Chelmsford) Ltd., Duke Street (Opposite Station).	3674/5	NORTHWOOD. Colliver Fisher at Northwood Ltd., 14, Station Parade.	777
ROMFORD. Kenistons, Victoria Road.	6283	<b>NORTHAMPTONSHIRE</b>	
<b>HERTFORDSHIRE</b>			
ST. ALBANS. Grimaldi Bros. Ltd., 188, Hatfield Road.	5595/6	NORTHAMPTON. Grose Ltd., Marefair.	31682
<b>HAMPSHIRE</b>			
ANDOVER. Anna Valley Motors (Andover) Ltd., Bridge Street.	2344/5	<b>NORTHUMBERLAND</b>	
<b>KENT</b>			
BROMLEY. H. E. Hills & Son, 481, Bromley Road, Downham.	HIT. 4197	NEWCASTLE-ON-TYNE. George & Jobling, Forth Street.	23105
CHATHAM. The Chatham Motor Co. Ltd., Railway Street.	3413/4 and 45865	<b>OXFORDSHIRE</b>	
DARTFORD. E. C. Bate, 62, West Hill and 32, Lowfield Street.	2748 and 3548	HENLEY-ON-THAMES. City Motors Ltd., Reading Road.	1115
FOLKESTONE. Martin Walter Ltd., 235-241, Cheriton Road.	3103	OXFORD. City Motors, Gloucester Green.	2231/2/3
<b>LANCASHIRE</b>			
LIVERPOOL. 2. Bob Sergent Ltd., Moorfields.	Central 7398	<b>SCOTLAND</b>	
MANCHESTER. Graham Bros. (Motors) Ltd., 7-15, Peter Street.	Blackfriars 9887/8/9	S.M.T. Sales & Service Co. Ltd. All Branches.	
MANCHESTER. Tom Mellor Ltd., 274, Deansgate.	Deansgate 6181/2	GLASGOW. John MacLean, 378, Cathcart Road.	Pollock 2823
MANCHESTER. 20. Saxon Jefferis Ltd., 674, Wilmslow Road, Didsbury.	Didsbury 3446 and 5340	<b>SURREY</b>	
PRESTON. Barton Motors (Preston) Ltd., Corporation Street.	3203	CROYDON. Westbrook & Marley Ltd., 14-16, Park Street.	2061
URMSTON. Jack Bamford, 114, Flixton Road.	Urmston 2388	FARNHAM. Heath Bros., 119-120, East Street.	6477
<b>LEICESTERSHIRE</b>			
LEICESTER. Batchelor Bowles & Co. Ltd., 60, London Road.	60268	<b>YORKSHIRE (East)</b>	
LEICESTER. Reader's, 61/63, Aylestone Road.	59554	HULL. Jordan & Co. (Hull) Ltd., Story Street.	36809
<b>YORKSHIRE (North)</b>			
<b>YORKSHIRE (West)</b>			
<b>WALES—DENBIGHSHIRE</b>			
<b>WARWICKSHIRE</b>			
<b>COVENTRY</b>			
<b>LEAMINGTON</b>			

# Cycle**master** Spare Fuel (Petrol) **CARRIERS**

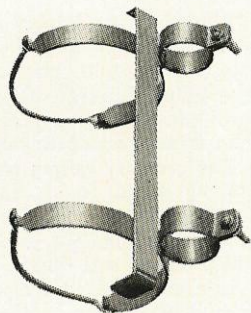
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To meet this we have designed a simple and inexpensive device to hold a Quart Tin<sup>®</sup> which can be easily fitted to any part of the bicycle frame. It is made of strong strip steel with grey coloured finish.

Price (without tin) 3/9  
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\* The Quart Tins in which Cyclemaster Engine Oil are supplied exactly fit this container.



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that your magazine, The Magic Wheel, is printed by Speedee Press Services of London and that the editorial consultants for Cyclemaster are the Dale Publishing Company of Wheathampstead, in Hertfordshire. Dale and Speedee are a team well used to working together, and they—and their clients—are generally proud enough of the results to show them to their friends. If you feel that the writing, presentation, or production of your print might perhaps be better, drop us a line. Either Dale or Speedee. We aren't fussy.



# TIPS *worth* REMEMBERING

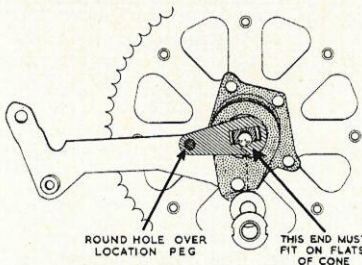
By  
The Engineering Manager

When you apply any kind of friction brake, the actual bits which come into contact with the moving parts very naturally want to go round with them—which would be so much easier than trying to stop them!

The ordinary caliper type of bicycle braking system is, of course, securely anchored to the forks, so that it cannot dodge doing the job for which it was designed and fitted.

In a coaster, or back-peddalling type of hub brake there is the same desire on the part of both brake band and cone to go round with the hub instead of trying to slow it down—so those parts have to be held firmly in position, too.

How is it done? If you will look very carefully at the nearside end of your hub spindle, you will see a small metal arm, shaped rather like a pear.



The pear-shaped arm which prevents the brake band revolving with the wheel.

The wider end of this has a hole which fits over "flats," specially shaped to receive it, on the outer end of the brake cone. On the other end of the arm is a smaller hole, which fits over a projection on the engine suspension bracket. Thus when you back-pedal, the cone has no alternative but to stand up to the job like a man.

If ever you take the engine out of the wheel, it is most important that

this arm should be correctly replaced. And whenever you remove it for any reason, make a point of examining the hole in the big end of the arm to be sure that the flats really are flat. If there is any sign of damage, or if you see what is known as a "radius" instead of sharp corners, get a new arm right away—the cost is very small, and it is better to be sure than sorry.

Incidentally, you do oil the hub every week, as described in the instruction book, don't you?

\* \* \*

Why are tyre pressures so important that a car-type valve, which enables you to check the pressure with a gauge, is fitted to the Cyclomaster wheel?

For one thing, both performance and fuel consumption can be adversely affected by pressures which are too low—it takes much more human effort to push a car with flabby tyres than it does one with the pressures just right.

In the same way, low pressures will spoil the m.p.g. of your Cyclomaster. But there is more to it than that. If you go over a bad pothole, and your tyres are too soft, they may give so much that the rim of the wheel may be dented; if that happens, then repair is out of the question. Wheel-truing can never remove a dent.

If, on the other hand, your pressures are too high, the tyre will not absorb shocks as it should, and you and the bicycle will both be submitted to stresses that won't do you any good.

So do keep the air pressure of your Cyclomaster wheel just right—that is, at the pressure shown in your instruction book. This pressure takes care not only of the extra weight of the powered wheel, but also of the faster speeds at which you are enabled to travel.

(Continued on page 24)

For **ALL** the News  
About **ALL** the cylemotors

READ

# “POWER & PEDAL”

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### MAXIMUM POWER

Your engine will maintain highest output over long periods.

### MINIMUM CARBON

Less deposit in the head and less clogging of exhaust ports and silencer.

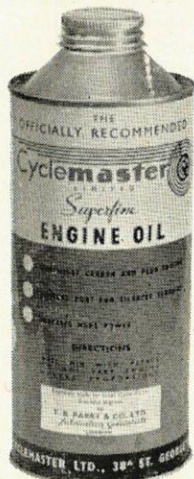
ASK FOR IT BY NAME FROM  
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# Cyclemaster

### SUPERFINE OIL

(Manufactured by T. PARRY & CO. LTD.)

CYCLEMASTER LTD., 38a St. George's Drive, Victoria, London, S.W.1



# 3/10

IN QUART  
TINS

(Continued from page 22)

If you ever get a garage to use their motor-car air line on your wheel, be sure to see that the air goes in only in small puffs. Some of those lines work at 100 lbs. to the square inch, and it wouldn't take many seconds of that to make your poor tyre feel—and look!—very sorry for itself.

\* \* \*

Whenever we get a report that a Cyclomaster engine is not performing well, we take steps to find out why—not only for the satisfaction of the owner, but for our own as well; we know what that engine can do, and don't like the idea of its being below par.

Once or twice lately we have traced sluggish performance and heavy petrol consumption to—the float being upside down in the carburettor. The owner gave it a good clean out (a most desirable thing) but put the float back wrong way up. The engine will run like that, but the effect is to raise the level of the fuel in the carburettor, which results in a mixture that is much too rich. This wastes petrol, causes very rough running, and builds up carbon much too rapidly.

When you take the float out, examine it to see that it is not dented. Then hold it with the pointed end uppermost, and seat the blunt end comfortably into the guide in the bottom of the float chamber. When replacing the cap of the chamber, get the point of the needle properly into the needle seating inside the cap before screwing down.

\* \* \*

We say in the Instruction Book that the correct mixture of petrol and oil for the Cyclomaster Engine is twenty-five parts of petrol to one part of oil.

But people love to experiment, and every now and again some enthusiast writes to tell me that he has run his engine for ever so long on a quite different mixture; or else that he has used a different grade of oil. The general conclusion is that the machine runs better, and that therefore we might consider changing our official recommendations.

Well, we don't. We go on being pig-headed (all right—I said it my-

self!) simply because we are ourselves testing and experimenting all day and every day—there is an interesting article about this development work on page 12.

If you put more oil into the petrol the working parts will be more freely lubricated, but we have not (repeat, not) found that this lengthens their useful life at all. What we have found, on the other hand, is that more oil means a lot more carbon a lot more quickly. Which is just what you do not want.

If you use less oil than we recommend, you will be able to go for much longer periods without decarbonizing, but the rate of wear of the moving parts will increase out of all proportion to your reduction in the oil content. Even more serious is the undoubted fact (we have proved it again and again) that meagre lubrication can cause complete seizure—with unfortunate results at best to the engine, and at worst to the rider as well.

\* \* \*

The Bantamag has three holes in the flywheel, and owners of Cyclomasters fitted with this magneto sometimes write to ask which of the three they should use when setting the contact breaker points.

Well, one of them has no setting instructions marked against it, so that one can be ruled out right away.

The other two have setting instructions. But one has the mystic letters "C W," and the other the letters "C C W." These letters simply mean "clockwise" and "counter-clockwise." The crankshaft of your Cyclomaster engine (to which the flywheel is attached) revolves counter-clockwise, so that is the hole you use when adjusting the points.

Why confuse the issue this way? That's a very reasonable question. The answer is that the Bantamag was fitted to other engines than Cyclomaster, and some of them went round the other way.

The point does not arise with the Wipac Series 90 magneto as fitted to wheels from No. 76751 onwards.

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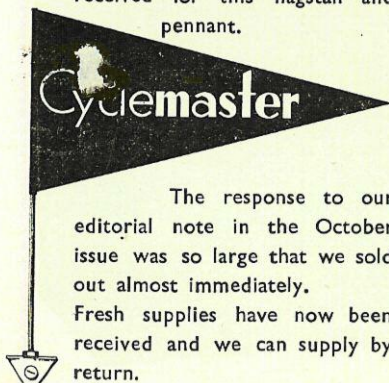
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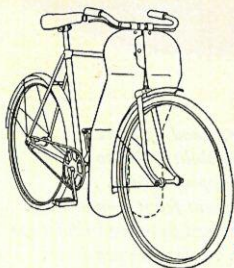


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