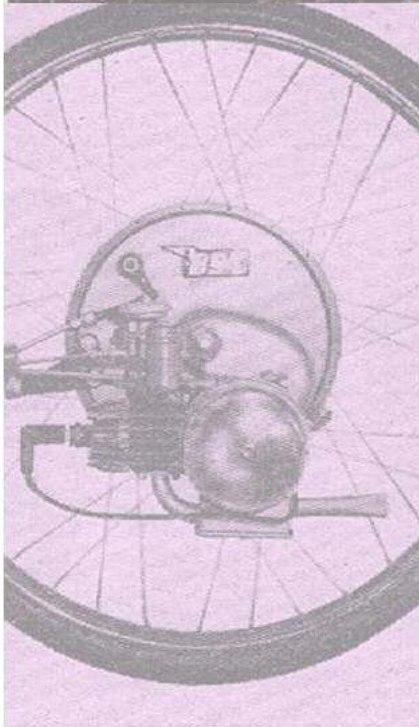


# IceniCAM Information Service



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A boon  
for the  
Countrymen

# POWER PAK NEWS

Ideal  
for  
Town!

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Vol. 162 1951

## FESTIVAL OF BRITAIN 1951

As our latest honour the Council of Industrial Design in making a nation-wide demonstration of Britain's leading achievements have selected the Power Pak Bicycle Motor to be EXHIBITED at the Festival of Britain, 1951. This selection was made from the enormous range of British achievements, by an Industrial Panel comprising of the country's acknowledged experts, including a great number of our leading scientists, industrial engineers and technicians.

The Power Pak Bicycle Motor will be on view to the world at large, not merely as a great outstanding British contribution but as being in advance of other countries.

The Power Pak Bicycle Motor was selected to bring the highest degree of credit to British industry for its high merit of functional engineering—quality of workmanship and material—design, and value for money.

Let the Nation's choice be your choice.

### GENERAL POINTS

Once fitted with a motor, the bicycle becomes a vehicle. As such it is necessary to have a "reserve" of power when travelling at a cruising speed. This the Power Pak has in abundance. Furthermore it must be appreciated that, whereas the motor acts as a POWER UNIT when you accelerate, it likewise acts as a BRAKING UNIT when you decelerate. It is also a fact, that fitted with a Power Pak Bicycle Motor, the bicycle has less tendency to skid as the low centre of gravity and the "pull" of the motor, stabilises the machine.

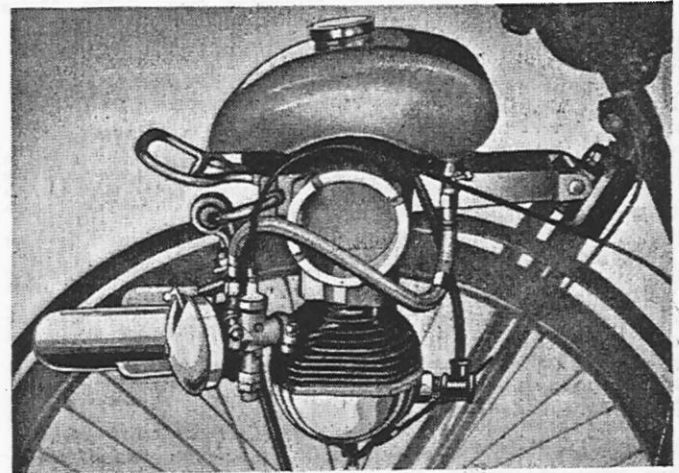
For peddling simply raise the Engaging Lever and the motor is lifted off the tyre. The machine immediately becomes a straight-forward pedal cycle with no resistance whatsoever

from the motor because, with the "Everlast" Tyre Drive, you are not peddling "through" a clutch.

There is no learning required with the Power Pak Bicycle Motor. Fit on—sit on—and drive away.

The Power Pak has a modern streamlined appearance, and is superbly finished in cellulose and the highest quality chrome. It is also equipped with a built-in reserve petrol tank ensuring unfailing petrol supply.

A bicycle motor is a joy as long as it works. If it is troublesome it becomes a liability. With a Power Pak you will have: "No starting troubles" and "No oiling plugs." You can depend on a Power Pak which is BRITISH ENGINEERING AT ITS BEST.



The Power Pak 49 c.c. Bicycle Motor is fitted in minutes to any type of bicycle or tandem without modifying any part thereof, other than parting the rear mudguard.

## "EVERLAST" TYRE DRIVE

Guarantees  
THOUSANDS OF MILES  
PER APPROVED TYRE

The "Power Pak" 49 c.c. Bicycle Motor, is the ONLY Motor fitted with the EVERLAST TYRE DRIVE. This patented drive, with its micrometer adjustment and elastic rubber suspension, maintains POSITIVE, CONSTANT, NON-SLIP ROLLER PRESSURE, completely eliminating tyre wear caused by slip. THE EVERLAST TYRE DRIVE does not contain any springs, is simple and robust, and needs no attention, and does NOT incorporate a "TYRE CLUTCH." THE EVERLAST TYRE DRIVE is the POSITIVE answer to TYRE WEAR, as there is no slip at any time, under any conditions and will give THOUSANDS OF MILES per approved tyre. There is NO TYRE WEAR problem with the EVERLAST TYRE DRIVE. This has been proven by thousands of users.

### COST OF MOTORISING YOUR BICYCLE

The price of the Power Pak 49 c.c. Bicycle Motor is £25. Terms are available. Road Fund Licence 17/6d. per year. Driving Licence 5/- a year. Insurance from 12/6 a year.

Total running costs, including petrol, oil and ADDITIONAL TYRE WEAR, will be less than 1d. per mile. The "Power Pak" 49 c.c. Bicycle Motor has NO CLUTCH—NO CHAINS—NO BELTS—NO SPIGOTS—NO GEARS—therefore, motor maintenance is confined to normal de-carbonising.

### OUTSTANDING IN ITS CLASS

The Power Pak Bicycle Motor gives smooth "vibrationless" running. As vibration is the primary cause of bicycle deterioration, there are no cycle maintenance costs when using a Power Pak Bicycle Motor. The Power Pak Bicycle Motor is the simplest and the most economical to maintain, and is operated with one "FINGER TIP" control only. There is no exertion required to start-stop-engage or disengage, and yet—The Power Pak Bicycle Motor is faster than any other bicycle motor of its class. Furthermore, it has a greater acceleration, hill climbing capacity, and power, than any other bicycle motor of its class.

### AN EXPLANATION

What then is the secret of this amazing motor?

A perfect design which has been thoroughly tested for five long years.

The Power Pak Bicycle Motor is lavishly built. Only the HIGHEST QUALITY materials and components are used and it is manufactured to the finest specifications.

Critical measurements are maintained to "TWO-TENTHS OF ONE THOUSANDTH OF AN INCH." When you realise that this is ten times thinner than a human hair you will appreciate what we mean when we talk of PRECISION BUILT.

The Power Pak Bicycle Motor is not mass produced. It is individually assembled, EVERY component is inspected, and EVERY motor is tested and tuned. It is NOT POSSIBLE for a faulty Power Pak Bicycle Motor to leave the factory.

# ENGINE DATA

Single cylinder — two-stroke — petrol driven  
 Bore—39mm. Capacity—49c.c.  
 Normal Revs. — 3,000 r.p.m.  
 Weight—22 lbs.  
 Fly-wheel magneto. 14mm. plug  
 Needle type carburettor complete with air filter.  
 Petrol consumption 200 m.p.g. at cruising speed of 20 m.p.h.

# SIMPLICITY

The Power Pak engine consists of a Crankshaft Assembly and a Piston/Conrod Assembly. It is not possible to make a petrol engine SIMPLER than this. The magneto, plug, carburettor, and silencer are IMMEDIATELY accessible and are unaffected by rain or dust. Nothing has to be "taken to pieces" to make any adjustment.

The bearing arrangement (which is a most important factor in an internal combustion engine) is more than ample, as oversized bearings are used throughout. Furthermore, these bearings are COMPLETELY enclosed within the housing of the Crankcase and again covered by the driving roller. When the driving roller is removed the complete housing is found to be free from dirt. With the use of stout oilseals, the Bearings are at all times segregated from ALL contact with damaging grit, etc. The bearing layout is excellent, as it will be seen that the main bearing is positioned DIRECTLY OVER the tyre, thus taking the FULL DRIVING LOAD.

# RELIABILITY

For a report on RELIABILITY, you must consult your Power Pak dealer. He cannot but tell you that the Power Pak is "the" most reliable.

# PERFORMANCE

As regards performance:— THIS MUST BE SEEN TO BE BELIEVED. The elasticity of this little motor is truly amazing. At a recent test a heavy bicycle was fitted with a Power Pak Motor. THREE people mounted the bicycle with a total weight of 36 stone. The motor picked up from 5 m.p.h. to over twenty miles per hour WITHOUT ANY PEDAL ASSISTANCE.

From a perfectly smooth ride at walking pace, open the throttle, and WITHOUT TOUCHING THE PEDALS the motor will attain its top speed in seconds. The Power Pak gives you maximum CONTROLLED power.

# TRADE & MOTOR CYCLE PRESS REPORTS

Reprinted from "The Motor Cycle and Cycle Trader."

A representative of "The Trader," with no previous tuition, rode in turn, two bicycles fitted with "Power Pak" units and reports easy starting, smooth and vibrationless running, exceptional acceleration, a maximum speed of 30 m.p.h. and spirited hill-climbing. There was an absence of four-stroking at low speeds. THE POWER PAK unit is noteworthy for its clean lines.

Because of the "pannier" mounting over the rear mudguard, with the cylinder fitted low on the offside, a low centre-of-gravity is obtained.

Reprinted from "The Motor Cycle."

"A beautifully made unit."

Reprinted from "Motor Cycling," December 14, 1950.

"Certainly the tyre seemed to suffer no harm whilst the outfit was in my possession: intentional abuse produced neither slip nor undue vibration."

"The cyclomotor owner in using the 'Power Pak' will, in my experience, be quite capable of incurring a summons for exceeding the speed limit in a built-up area! . . . . After riding the machine for many hours, I found that I had used hardly any of the petrol and oil mixture which had been put into the tank."

"At about seven m.p.h. pedalling speed, the motor cut in and carried on with the hard part of the work."

"The 'Power Pak' does not detract from the distinguished appearance of a quality bicycle."

"Note the rubber mounting of the unit and general accessibility."

"Sound design and construction."  
 "Particularly good compression."

# 371 MILES RUN COST 4/- !

Wishaw Man Did 250 Miles To The Gallon

This week-end Mr. Robert MacIntyre, Russell Street, Wishaw, sets out on his return journey to Baldock, some forty miles from London.

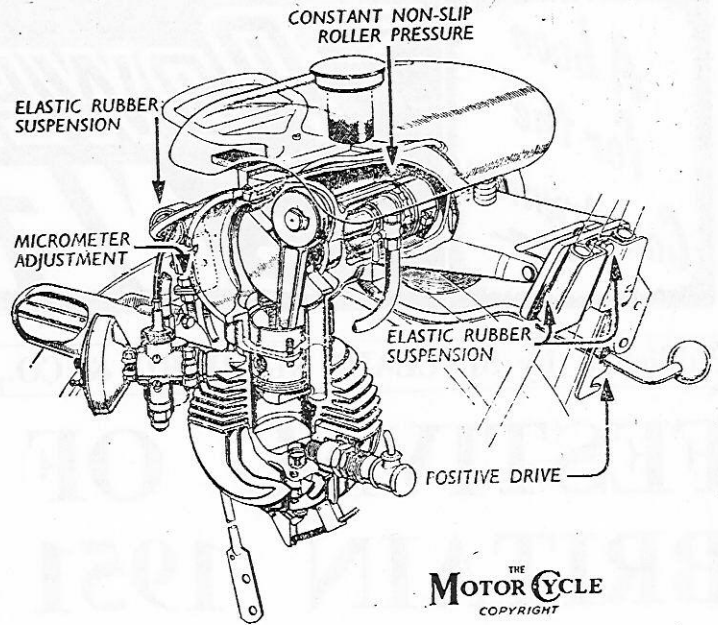
A Wishaw man, who was formerly employed at the cement plant, he has been working in the South for the past two years.

## UNDER 24 HOURS

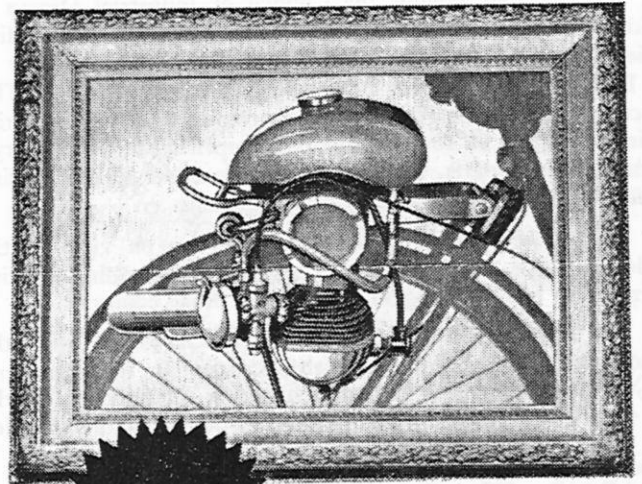
Recently he purchased a "Power Pak" for his Raleigh roadster cycle. On this machine he set out from Baldock to travel to Wishaw on holiday and accomplished the journey which registered 317½ miles, in under 24 hours. This time includes stoppages on the road for meals. His machine ran magnificently.

Prior to setting out on his long ride to "Bonnie Scotland" Mr. MacIntyre had only travelled some 250 miles with his "Power Pak"—a device which is petrol driven, and fitted to the rear wheel of the cycle.

On his long ride he experienced no mechanical trouble despite the fact that the "L" is still carried front and rear.



THE MOTOR CYCLE  
 COPYRIGHT



SELECTED

to be exhibited at the FESTIVAL OF BRITAIN to bring the highest degree of credit to British Industry.

This selection was made as one of Britain's leading achievements for its high merit of functional engineering — quality of workmanship and material — design and value for money.

Power Pak is the only motor fitted with Everlast patented tyre drive Guaranteeing thousands of miles per approved tyre.

£25  
 (no purchase tax)



LET THE NATION'S CHOICE BE YOUR CHOICE

## RETURN "FARE"—UNDER 10/-

The run to Wishaw cost roughly about 4/- for petrol and with a similar outlay for the return run Mr. MacIntyre's trek to Scotland and back will cost well under the 10/- mark. Two or three similar runs. Mr. MacIntyre estimates, will fully repay him for his outlay on the "Power Pak."

An experienced cyclist, he has

great praise for the device, which cuts out strenuous pedal work. Without his "Power Pak" Mr. MacIntyre, who holds a disability pension from World War II, could not have undertaken such a long journey. The consumption of petrol is 250 miles to the gallon.

Reprinted from Wishaw Press and Advertiser, 11th August, 1950.



## FAMILY COVER 1,500 MILES ON THREE WHEELS 10,000 Miles of Trouble-free Running

Messrs. Sinclair Goddard & Co., Ltd.,  
162, Queensway, LONDON, W.2.

Dear Sirs,

I would like to report, that with a Power Pak motor fitted to my tandem, I have travelled approximately 10,000 miles, 1,500 miles with my wife on the back and daughter in the sidcar, and have experienced no mechanical troubles whatsoever. The motor has never let me down.

I have not experienced any oiling plugs or starting trouble. I have had no extra maintenance costs or repairs, either to the motor or my tandem, since fitting the motor. I decarbonise the motor myself in three-quarters of an hour, and I find the tyre wear to be very satisfactory indeed, as I have just done 1,500 miles on one tyre, and the tread is hardly worn.

The power available from this little motor is amazing, and is ample to pull my family and myself quite comfortably on the flat WITHOUT TURNING THE PEDALS, whilst with some assistance, we are able to get up every hill under all conditions without experiencing any roller slip.

Yours faithfully,  
T. G. B.

(The above is reprinted from an actual letter in our files.)

### REPRINTED FROM "MOTOR CYCLING"

What is it then than recommends the Power Cycle?

The public has become educated to appreciate these remarkably efficient little "egg-cup" units as the obvious and logical development of mechanical transport under conditions which exact the utmost economy in most aspects of national life.

First it does not look like a motor cycle. There is no starter to kick. The whole affair can be carried upstairs or propped up in the passage. In other words, it is a motor vehicle which still remains a bicycle, and what's more, still keeps its pedals for use should the engine fail at any time, so that the owner does not feel that all is lost. And to the person who must paddle his own canoe, the ability to remove the engine altogether and yet continue to ride, is no mean consideration.

### AN OLD IDEA

Since the year 1895, a great many attempts have been made to "Motorise" a bicycle. It was found, however, that the bicycle frame would not withstand the rather cumbersome motors of the day. The frame was subsequently strengthened and the great grandfather of our present-day Motor Cycle was born.

Scientific engineering developments have greatly improved the efficiency of modern "Small Motors," and in recent years a large number of manufacturers have again attempted to "Motorise" the bicycle. They were, however, faced with the identical problem as that of their predecessors, namely, to give a good performance and yet not "overpower," and thus ruin the bicycle.

It is true that, on the one hand, the stability of the bicycle had increased, but, on the other hand, the public's interpretation of a "good performance" had likewise increased.

### POWER PAK AIMS

After years of study and experience the Power Pak bicycle motor was designed to incorporate the following features:—to fit any cycle or tandem in minutes—to be easy and effortless to operate—to give a really outstanding performance—complete simplicity of design and constant reliability.

### POSITION

Firstly came the question of position. A front wheel position appeared to be impractical with our spirited unit.

A low mounting position beneath the bicycle frame seems only advisable in "clean" climates, as the motor is prone to dust and mud in this position.

A motor mounted between the frame does not appear to give a great measure of comfort to the rider.

The rear position was therefore chosen, and the Power Pak 49 c.c. motor was designed so that, apart from the very light petrol tank, the FULL weight of the motor is distributed BOTH SIDES of the rear wheel in a low slung position (as pannier bags on a motor cycle), making full advantage of the low centre of gravity, and yet still keeping it high enough to be unaffected by road dust and mud. In this position the rider maintains perfect balance and stability of the bicycle when the motor is engaged or disengaged, and there is absolutely no "Tail Wag" when travelling at speed or when cornering. Furthermore, no part of the bicycle frame is stretched or strained in any way.

## METHOD OF DRIVE

There are various methods of transmitting the power of the engine to the bicycle. Among these are: Belt Drive, Chain Drive and Wheel Spindle Drive. In all these methods a clutch is necessary, also in some cases, a sprocket is attached to the spokes of the rear wheel.

It is generally accepted to be unsatisfactory to use the existing bicycle chain to transmit the power of the motor, as this chain has not been designed for such use.

## APPLYING-A TEST

A reasonable test against roller slip can be carried out as follows: Firstly, check that the motor is correctly fitted. Engage the motor into its driving position. Place the throttle control in the full throttle position, lean heavily on the bicycle and push slowly forward. This action should cause the driving roller to "revolve" the motor WITHOUT any "roller slip" whatsoever. The driving roller should turn WITH the tyre even when the tyre is thoroughly wet. The higher the compression and power of the motor, the more severe is the test, and more effort will be needed.

## TYRE DRIVE EXPLAINED

Because our primary aim was COMPLETE SIMPLICITY OF DESIGN in order to give TROUBLE-FREE riding, we chose a direct roller drive on to the tyre. This type of drive must be split into three distinct classes. Firstly, where the roller is lifted on and off the tyre when in motion (causing a "clutching" action). With this method of drive, the tyre may suffer wear caused by the misuse of the clutching action. The second method is when the roller is held against the tyre with a "spring" pressure. With this method, tyre wear may occur through the inefficiency of the "spring" to hold the roller on to the tyre, against the power of the motor, thus allowing the roller to slip. This is more prevalent in wet weather.

The third class, however, is where the roller is held in a "positive-locked" position when the motor is engaged. In this way, the roller is held on the tyre at a constant pressure and rotates WITH the tyre, IN ALL WEATHER CONDITIONS with NO SLIP. It is this POSITIVE roller drive that we have chosen.

This is a most important factor, as it will be appreciated that the actual contact of a driving roller with a tyre, is in fact, very similar to the contact between the tyre and the road. Such contact does not cause undue wear. What then causes undue tyre wear? In order not to have to constantly replace the driving roller, this component is always made from a very hard material. Indeed far harder than the tyre itself. If the method of attaching the motor to the bicycle is such, that for reasons given above, the driving roller spins without "driving" the tyre, then "slip" occurs. When "slipping" the driving roller acts as a "grinding wheel" and the high revolutions, together with the pressure with

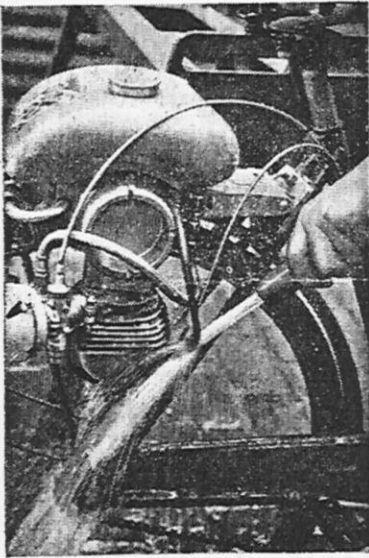
(continued on page 4)

## Half a Million Riders Can't Be Wrong

All these conditions have been thoroughly studied on the Continent of Europe where it is estimated some 500,000 cycle motors are in use, and it has been generally accepted there by the largest and oldest established manufacturers, that the most successful method of driving and the cheapest to maintain is undoubtedly a DIRECT ROLLER DRIVE ON THE TYRE. These manufacturers actually claim that with a POSITIVE tyre drive, tyre wear is no greater than with a chain or any other type of drive.

At the recent Milan Bicycle Fair, no less than 14 manufacturers introduced new bicycle motors, ALL employing a DIRECT ROLLER DRIVE ON THE TYRE. Furthermore, two firms redesigned their existing motors from chain drive to roller drive. In addition, both the largest Italian manufacturer and the largest French manufacturer, who between them have produced and sold some 300,000 bicycle motors, have never altered their original method of drive, namely—DIRECT ROLLER DRIVE ON THE TYRE.

The reason for this undisputed choice is twofold. Firstly, with this type of drive, the possible replacement of chains, belts, clutch parts, sprockets, spokes and rear wheels is completely eliminated. Secondly, the motor itself is perfectly INSULATED from ALL driving shocks and snatch, as it has the enormous benefit of having some 60 lbs. per square inch of air pressure between itself and the driven wheel. This perfect insulating barrier affords the motor a "cushioned" drive and undoubtedly adds to the life and the general well-being of the little motor.



The Power Pak functions perfectly in all weathers and conditions, even with a hose playing on it.

(continued from page 3)

which it is pushed on to the tyre, takes a heavy toll of the particular section of the tyre where this "slipping" occurs.

The golden rule, therefore, is, that the driving roller **MUST** rotate the tyre at all times and under all conditions, as it is "roller slip" which is the cause of the trouble and **NOT** the fact that the tyre is being driven.

## TYRE WEAR EXPLAINED

When ANY motor is fitted to ANY bicycle, regardless of the method of drive or the mounting position, additional tyre wear occurs. This is caused by the additional "thrust" from the motor (which propels you and saves you pedalling).

What should the additional tyre wear be? This depends upon three main factors. Firstly, the type of tyre that you use. With the "EVER-LAST TYRE DRIVE" this should be a heavy tandem type, the tread of which runs "around" the tyre and **NOT** a studded tread. The tyre must be inflated hard, to an approximate pressure of 60 lbs. per square inch. The second consideration will be how you maintain and drive your bicycle. Thirdly, and by far the greatest factor, the type of bicycle motor that you fit, taking into particular consideration the detailed design of the driving roller itself.

## INDIVIDUAL DESIGN

EVERY different type of bicycle motor has its own PARTICULAR detailed design. It is, therefore, incorrect to suggest that ALL "chain

drives" are bad. It is equally incorrect to suggest that ALL "tyre drives" are good. Each individual motor must be judged on its merits.

If the particular design of the motor is such that the additional tyre wear is reasonable, then by the mere fact of dispensing with ALL other potential trouble-makers, this design is satisfactory.

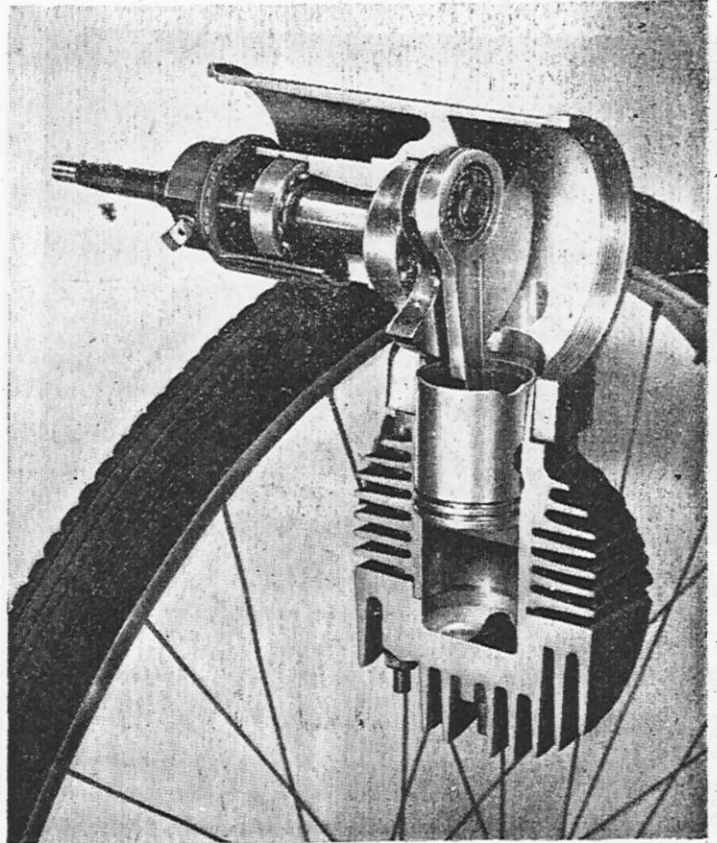
## ADDITIONAL COSTS

It must be appreciated that it would be too much to expect to transform a bicycle or tandem into a vehicle without incurring "some" additional running and maintenance costs. The aim, therefore, must be to keep these additional costs as low as possible. As ALL mechanical devices experience a certain amount of "wear," these running costs must cover possible replacements and repairs to the MOTOR as well as to the bicycle. Remember, the more devices there are (whether visible or not), the greater the possibility of trouble, and subsequently the greater the cost of maintenance.

## GREAT CLAIMS

We have indeed made some great claims for our motor. This is not just "paper talk." Ask your dealer for a demonstration to-day, and judge it on its merits. Remember the Power Pak detailed design is unique, and should not be confused with any other motor.

In closing, may we thank you for reading the "Power Pak



An "exploded" view of the Power Pak showing the extreme simplicity and excellent Bearing arrangement of the motor.

News." Become the owner of a Power Pak Bicycle Motor, and you will thank us, as it is our policy to sell through selected and appointed dealers, who will give you "individual" attention and service.

Sole Concessionaires:  
Messrs. Sinclair Goddard  
and Co. Ltd.,  
162, Queensway, London, W.2.  
(opposite Whiteleys)  
Telephone: Bayswater 6257.

## YOUR APPOINTED DEALER

## STOP PRESS

Owing to increased cost of materials  
**NEW PRICE 25 gns.** No Purchase Tax

Going to work on my Power Pak is a pleasure . . .

