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A new Era in Motoring

S. SMITH & SONS, IN
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A new Era in Motoring

THIS LITTLE BOOKLET TELLS all about the Smith post-war Motor Accessories, and is also a preliminary statement to Motor Car Manufacturers and the Motor Trade generally of the co-operation and service which S. Smith & Sons (M.A.) Ltd., are planning to give in the new motoring era ahead.

S. Smith & Sons
MOTOR ACCESSORIES LTD.
SPEEDOMETER HOUSE.
179-185, Gt Portland St., London, W.1.
Telephones Mayfair 6350 (6 lines)
Telegrams "Speedomet, Telew, London.

SMITH'S

Midland Service Depot : 6, Livery Street, Birmingham
Northern Depot : 12, Jackson's Row, Deansgate, Manchester

Export Arrangements

In all parts of the world there is a constant and ever-increasing demand for Smith's Motor Accessories—so much so, that our Export Department has grown to huge proportions. In many countries we have established our own Branches, whilst in others Agents have been appointed, and these Branch Houses and Agencies carry adequate stocks of all our specialities, enabling them to meet any local demand at a moment's notice. Hereunder is a list of our Colonial and Foreign Offices and Agents and Stockists :—

Africa

Cape Colony—

S. SMITH & SONS (M.A.) Ltd.—
48, Strand Street, Cape Town.
5, Loveday Street, Johannesburg.
47, Main Street, Port Elizabeth.
Hampson's Buildings, Smith Street, Durban.
(Distributors for South Africa.)

Egypt—

G. JAGGARD & Co.,
Alexandria and Cairo.

West Africa—

F. & A. SWANZY, Ltd., Accra, Lagos, Sekondi, etc.
MILLERS, Ltd., Kumasi, Accra, Lagos, Sekondi, etc.

America (North)

S. SMITH & SONS (M.A.) Ltd., 725, Tribune Buildings, New York. (Distributors for North America.)

America (South)

Argentine—

S. SMITH & SONS (M.A.) Ltd., Tucuman 692, Buenos Aires. (Distributors for Uruguay and Paraguay.)

Brazil—

P. T. WESSEL & Co., London.
(Distributors for Brazil.)
A. MIRANDA, Para.
MACHADO CAVALCANTI & Co., Maranhao.
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J. MONTEATH & Co., Parahyba.
MACGREGOR & Co., Pernambuco.
LUIZ BARRETTO, Bahia.
A. MOREIRA DANTAS, Victoria.
ARTHUR B. FREELAND, Rio de Janeiro.
H. E. BOTT & Co., Sao Paulo.
H. E. BOTT & Co., Santos.
MENDES & Co., Curityba.

Brazil *(continued)*

WALDEMAN I. de BARCELLOS, Porto Alegre.
GASCAO C. DUARTE, Pelotas.

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Burma—

Messrs. ROWE & Co., Rangoon.

Ceylon—

BROWN & Co., Engineers, Colombo.

Mesopotamia & Persia—

STRICK, SCOTT & Co.,
Basra, Mahommerah and Baghdad.

India—

BOMBAY CYCLE & MOTOR AGENCY, Hornby Road, Port Bombay.
A. J. COLLINGS & Co., Hughes Road, Bombay.
DYKES & Co., 29, Waterloo Street, Calcutta.
THOS. F. GUTHRIE & Co., Calcutta.
T. R. PRATT & Co., Calcutta.
ADDISON & Co., Mount Road, Madras.
OAKES & Co., Madras.
MARSHALL & Co., Madras.
A. H. WHEELER & Co., Allahabad, Bombay, and Calcutta.

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S. SMITH & SONS (Siam) Ltd., Bangkok. (Distributors for Siam.)

Straits Settlements and Malay States—

S. SMITH & SONS (Siam) Ltd., Bangkok.

Java—

S. SMITH & SONS (M.A.) Ltd., Simpang, Sourabaya. (Distributors for Dutch East Indies.)

Japan—

TAKATA & Co., Tokio, Osaka, and Branches.
OKURA & Co., Tokio, Yokohama, Dalny, etc.

Australia

S. SMITH & SONS (M.A.) Ltd. 199, Castlereagh Street, Sydney. (Distributors for Australia.)

Europe

Belgium—

B. D'USTON, 35, Rue Ernest Allard, Brussels

Cyprus—

G. JAGGARD & Co., Famagusta.

Denmark—

K. W. CHRISTENSEN, Ny Ostergade, 21, Copenhagen.
OTTO DREWSEN, Favergade 17, Copenhagen.
N. F. JOHANSEN, Vesterbrogade 140, Copenhagen.
T. T. NIELSEN, Ny Colbodgade, 6 and 8, Copenhagen.
N. RAABERG & Co., Farvergade 10, Copenhagen.

Finland—

France—

ETABLISSEMENTS KIRBY, 73, Rue Laugier, Paris. (Distributors for France.)

Greece—

G. JAGGARD & Co., Athens.

Holland—

Messrs. B. D'USTON, Hooge Nieustraat, The Hague.

Italy—

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ANASTASI BROS., 2, Molo Marina Sliema.
GUIS ANASTASI & Co., Valetta.

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B. O. STEEN, Christiania.

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VIUDA DE ALBERTO MAURER, Carrera de San Jeronimo, 15, Madrid.

Sweden—

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Stockholm 3
Odinplatsen 4 Gothenburg.
Sodra Forstatsgatan, Malmo.

Turkey—

G JAGGARD & Co., Salonica and Constantinople.

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S. SMITH & SONS (M.A.) Ltd., 23, Hunter Street, Wellington. (Distributors for New Zealand.)

Tasmania

S. SMITH & SONS (M.A.) Ltd., 199, Castlereagh Street, Sydney. (Distributors for Tasmania.)

West Indies

Messrs. DA COSTA & Co., Barbados.

Throughout Great Britain, specially accredited Agents and Dealers look after our interests in practically every town, and are able (from stock) to supply and fit any of Smith's Motor Accessories. The name of the Dealer in any town can be had upon application to our Head Office.

Speedometer House

This noted land-mark in the motor world was built specially by Messrs. S. Smith & Sons (M.A.), Ltd., to house the vast commercial organisation necessary for the conduct of their world-wide business.

The floor area of Speedometer House amounts to upwards of 68,000 superficial feet, and no less than 550 employees are constantly engaged on the premises.

In addition to the Company's General Offices, which are furnished and equipped with every modern convenience, here are to be seen the most up-to-date motor accessories showrooms in this country, replete with every conceivable accessory required by motorists for every make of car.

It is no exaggeration to say that Speedometer House is the recognised World's Headquarters for all that is best in motor accessories.

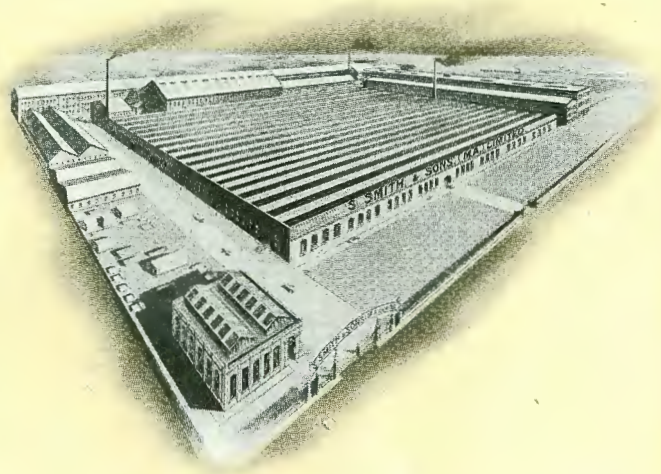
MOTOR EXPERTS are unanimously agreed that with the coming of Peace, the motoring industry will enter on a new era, and practically every Motor Car Manufacturer is now busily engaged in completing plans to deal with the huge volume of business which is expected almost immediately.

New principles and new ideals will be predominant in all types of cars, and it is generally agreed that most of the cars of the future will be "Ready-for-the-road," which means that Manufacturers will supply their cars fully equipped in all respects, without requiring the addition of further accessories and fittings.

In pre-war days the usual practice was for a man to buy his car, and then fit all the accessories at additional heavy cost; in after-the-war days the purchaser of a car will know beforehand the exact expenditure he will incur.

The advantage of this plan is that Manufacturers will be able to standardize not only the chassis and the body, but also the accessories and the fittings of the car, thereby effectively reducing the cost of the completed car to the buying public.

It is obvious, therefore, that the production of a high quality car, complete in every respect for the road, at a moderate and reasonable all-inclusive cost, will tend to make motoring much more popular in the days to come than it was before the War.



Central Works Cricklewood

Now that hostilities have ceased the " Smith " Plant is at your service—buildings and machinery complete, down to the very last bolt.

This is the largest British factory exclusively engaged in the manufacture of Motor Accessories and Aviation Instruments, and was built by Messrs. S. Smith & Sons (M.A.), Ltd., to meet the continually increasing demands for their products.

The Factory covers a site of 4½ acres, and the actual floor area amounts to 140,000 superficial feet, whilst upwards of 2,500 workpeople are permanently employed in the various workshops.

The workshops themselves are laid out in the most approved and scientific manner, and are constructed to afford the workpeople the maximum comfort, light, health, and sanitation.

In every shop only the most modern machinery is in operation, and has been perfected to such an extent that we shall be able to deal with a huge production of Motor Accessories and Aviation Instruments for post-war purposes.

The Company owns other two Factories—one at Camberwell, with a superficial floor space of 5,000 feet—the other at Acton, with 10,000 superficial feet of floor space. The Camberwell Factory is chiefly engaged in the manufacture of Electrical Apparatus for Motor Cars, whilst the Acton Factory is devoted to the production of Aviation Instruments. These two Factories are destined to take a much more prominent part in maintaining the reputation of the House of Smith than they have done even during the War.

ESTABLISHED IN THE YEAR 1899, Messrs. S. Smith & Sons (M.A.), Ltd., have rapidly achieved fame as the foremost Motor Accessories House, and for many years their specialities, by sheer merit alone, have been the preferred accessories of motorists in every country in the world.

With this reputation to maintain, and having in mind the post-war standardisation programme of the motor car manufacturers, Messrs. S. Smith & Sons (M.A.), Ltd., have given very great attention to the improvement of their specialities.

Before the War, 13 out of 14 British car manufacturers standardising instruments fitted the Smith Equipment, and there is no doubt that most of the post-war cars will be similarly fitted and equipped.

During the War we have been solely engaged on the production of instruments of precision for aeroplanes, and in fact Messrs. S. Smith & Sons (M.A.), Ltd., have produced more Aviation Instruments for the British and Allied Governments than any other firm. The experience thereby gained has been of vital importance, enabling us to perfect our vast organisation for the production of post-war motor accessories.

Every article has undergone a complete change in design ; its quality has been consistently improved ; the finish and durability perfected ; its operation made absolutely reliable ; and prolonged, expensive, and independent tests have proved them worthy the paramount place as post-war accessories.

The Smith equipment will also be available for the man who already owns a car which is not yet fitted with accessories, and the prices have been fixed as low as possible consistent with high quality materials and skilled workmanship.

Smith's Speedometers

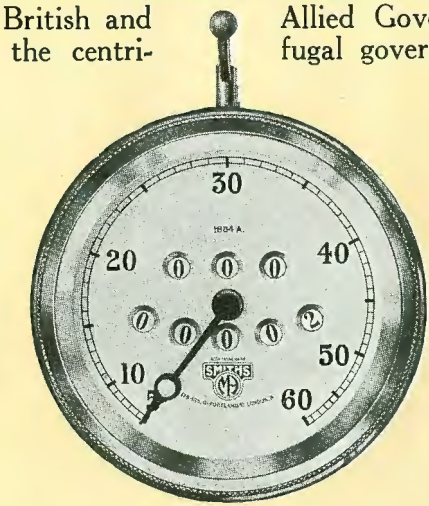
NEARLY every Motorist has actually used a Smith Speedometer, and it is no exaggeration to say that throughout the world the Smith Speedometer has become the instrument by which all other speed-measuring instruments are judged. Because it has been proved by exhaustive tests and experiments the most perfect, the most reliable, and the most durable instrument ever put on the market.

The Smith Speedometer has been tried and tested under the severest possible conditions—conditions under which few other Speedometers could survive, and we claim that every detail in the construction and mechanism of the instrument is thoroughly dependable. It is absolutely steady at all speeds, and under any vibration, however severe. The Mileage Recorder is guaranteed to a fraction of a mile, and the Trip Recorder, working independently of the total mileage recorder, gives results to similar fractions.

In the post-war Smith Speedometer the interior details have been considerably improved, guaranteeing an absolutely accurate record of speed, and an indicator as steady as a clock hand, whilst the dial has been entirely re-designed, giving a perfectly clear reading, both of speed and mileage. The refined and neat appearance of this new model is sure to meet with the entire approval of all motorists.

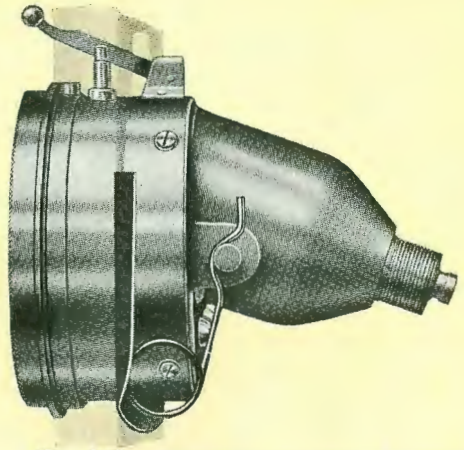
A high standard of excellence, both in design and efficiency, is reached to a remarkable degree in the Smith Speedometer.

The principle of centrifugal force has been maintained as the operating principle of the Smith Speedometer. Our long experience has convinced us that this is the most accurate form of mechanism for Speedometers, and this view has been greatly strengthened during the War, when our whole Speedometer Factory plant has been engaged in the manufacture of thousands of Revolution Indicators for the British and Allied Governments. Because the centrifugal governor gives a positive connection between the first revolving member and the communicating pointer, it is not subject to error due to temperature changes, and ensures a steady pointer, responding at once to changes in speed.



The Smith Speedometer (Flush Fitting)

The post-war Smith Speedometer indicates speed up to 60 miles per hour, the total mileage records 10,000 miles, with a decimal figure showing tenths



The Smith Speedometer (showing method of fitting to dashboard)

of miles, and the whole of these figures automatically return to zero at the end of this distance. The trip records up to 100 miles, and also has a decimal figure, so that accurate readings can be taken for short or long distances during the day's run. A special feature of the Speedometer is the quick and instantly operated re-set for returning the trip to zero.

The Smith Speedometer can be supplied either flush fitting or bracket fitting, as may be required by the purchaser. In the flush fitting model the visible front of the instrument shows as little metal as possible, so that the effect is most pleasing, and cleaning is reduced to a minimum. The design of the bracket model is also attractive in appearance, and will not look unsightly on whatever car it may be fitted. Both the flush fitting model and the dashboard model can be supplied either nickel-plated, polished brass, or black enamel, or, if specially ordered, silver-plated.

Care has been taken to make the flush-fitting Smith Speedometer of exactly the same size and proportions as the new Smith Bezel-wind Motor Watch, and the Smith Bezel-wind Switchboard, with a view to securing an attractive instrument board. All these instruments are of the same diameter. They stand out at the same distance from the board, and they are all invisibly secured by means of a patented spring arrangement, simply and effectively fixed at the back of the board. Full particulars of the complete Smith Instrument Board will be found in the accompanying leaflet.

The Flexes provided with the Smith Speedometers are of superior make. They are very durable, and will stand years of hard usage, and give practically no trouble in operation.

The Drive is one of the most important parts of a Speedometer, and we confidently recommend the Cardan Shaft Drive as the most excellent form of attachment for live axle cars. This drive is simple

The Smith Speedometer (Bracket Type)

and effective. Short Flexes being used, it is out of the way of dust, and there being no sharp bends or sway of the flexes, all danger of breakage is overcome. In addition to the Cardan Shaft Drive, we are also able to supply a greatly improved Gear Drive—the most practical yet produced. This latter Drive is of very strong construction, and very silent in its operation.

For Ford Cars we are offering a special Speedometer

The Smith Motor Cycle Speedometer complete with a most attractive cowl board ready to be fitted in the front of the car. This instrument and board will give any Ford Car a dignified and refined appearance, and serves to fill up the empty space below the wind shield of the car.

We are also marketing a very handsome Motor Cycle Speedometer, specially designed to withstand the excessive vibration and road shocks to which motor cycles are subject. Special attention has been given to the drive of this Speedometer, and we

The Smith Combined Speedometer and Mileage Recorder for Commercial Vehicles

consider it to be the most perfect motor cycle Speedometer drive that has ever been produced.

For Commercial work, we are offering a special Mileage Recorder for heavy vehicles, to record Mileage only, and a combined Speedometer and Mileage Recorder of new design and construction. The latter instrument will make every conceivable record required for costing, checking petrol consumption and tyre mileage. It records speeds up to 30 miles an hour, maximum speed on any journey, season mileage and daily mileage, and records accurately, whether the vehicle is going backward or forward. There is no other instrument on the market to equal the Smith Combined Speedometer and Mileage Recorder.

Smith's Motor Clocks

THE making of a Motor Clock may appear a simple matter, but our experience has been otherwise. Great care and absolute exactitude are necessary to ensure not only a perfect timekeeper, but also a clock that will withstand the excessive vibration to which a Motor Clock is subjected. The fact that over 250,000 Smith Motor Clocks and Watches are at present fitted to motor cars is conclusive proof of their dependability and serviceability.

Since we started making Motor Clocks and Watches our plan has been to discard parts not essential to correct time-keeping. Thereby we have made the process of manufacture as simple as possible, and kept down the costs of production.

Smith's Bezel-Wind Motor Clock (flush fitting)

The Smith Bezel-Wind Motor Clock (bracket type)

All our Clocks are specially constructed from the finest material ; all movements are fitted with a perfect escapement, guaranteed to keep good time ; the cases are absolutely watertight and dust-proof ; it is hardly ever necessary to have them repaired, and the risk of breakage is infinitesimal.

In our new post-war model the very acme of perfection has been reached. Many new features have been added, and we confidently assert there is no other Motor Clock in the world which will render such a good account of itself as the Smith Motor Clock. Under every condition of weather or of roads it will remain dependable always.

In appearance the new Smith Motor Clock is the last word in dignified refinement, and enhances the value and appearance of any car. The attractive silvered dial, with its distinct figuring and beautifully proportioned hands, is perfectly

The Smith Bezel-Wind Motor Clock for Ford Cars

clear and readable from a considerable distance. The most outstanding distinctive feature of this Clock is the new patented bezel-wind. By simply rotating the knurled bezel on the front of the instrument the clock can be wound up in a few seconds. To alter the hands it is only necessary to pull out the little button immediately under the dial, pushing this back into its original position when the hands have been set to the desired time.

Like the Smith Speedometers, the Smith Motor Clocks are supplied in either flush or bracket fitting, the flush fitting being attachable to the dash board by means of the new Smith Spring. They are made in nickel-plated, polished brass, or black enamel, or if specially ordered, silver-plated.

A special type (illustrated above) has been designed for use on Ford Cars and on small run-about cars. It is very suitable for mounting on the Ford Cowl Board mentioned in the Speedometer Section of this Booklet. This model can be supplied either flush or Bracket fitting in all brass or all black, or with the body in black and the bezel in polished brass.

Smith's Pressure Gauges

THE Pressure Gauge is being recognized more and more as a necessary accessory to a Car, whether in conjunction with the Fuel Feed on Pressure Tanks or with the Oil Feed on the lubricating system.

On the latter it is a *sine quâ non* that the gauge should be efficient and able to stand pressures considerably in excess of normal by reason of the "ungluing" taking place when the oil system is started after the car has been lying idle for some time.

The Smith Gauges are built on a well-tried principle and are simply the post-war effort of production of gauges of all ranges manufactured by us for the Air Board for Aviation during the War.

It follows that these instruments are of the greatest accuracy and sufficiently robust to stand all the

The Smith Oil Gauge

The Smith Fuel Gauge

overload and other tests imposed by the exact requirements of the Air Board.

It has in the past been the custom to dump a Pressure Gauge on the Dash Board of any size, shape or design without respect to the wishes or artistic feeling of the ultimate user of the Car, but we can confidently say that our gauges, fitted in the manner shown on our Flush Fitting Boards, will please the most fastidious taste in regard to design.

Our gauges match up our other instruments to a nicety—another very strong argument in favour of obtaining all the instruments from the same source of design and supply.

Mechanically, little can be said of Pressure Gauges, but we guarantee our types to be absolutely steady and accurate, and the most perfect to be obtained.

Smith's Starting & Lighting System

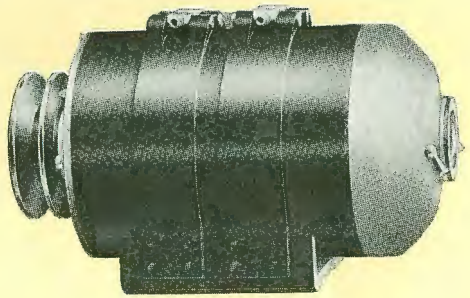
The electrical equipment of a motor car has constantly increased in importance, until within the last few years it has become the most essential auxiliary on the car, and for that reason Messrs. S. Smith & Sons (M.A.), Ltd., have given their special attention to the development and perfecting of electrical equipment.

Before the War, Smith's Lighting Sets, for both private and commercial cars, were universally acknowledged to be the most practical and efficient systems in existence, but the necessity for a powerful positive, automatic starting device to work conjointly with the lighting system presented a problem which Smith's set themselves to solve.

And now, after years of specialised research, practical and comparative tests, Smith's claim to have produced a Starting and Lighting System which is paramount among electrical apparatus for motor cars and motor lorries.

The post-war Smith's Starting and Lighting System contains many new features and improvements, all of which add greatly to the high standard of efficiency and serviceability previously obtained in the Smith's Lighting Sets. And there is no doubt whatever that Smith's Starting and Lighting System will form an integral part of the equipment of many of the post-war cars.

The dynamos and starter motors of Smith's Starting and Lighting System are constructed in a range of sizes which cover all requirements, from the largest car to the smallest car, and models will also be available for commercial vehicles of all makes. Hereunder, for the benefit of motorists and others interested, we give a brief description of the component parts of the post-war Smith's Starting and Lighting System.



The Smith Dynamo

The Smith Dynamo is of the Constant-Current Type, and is constructed under well-known patents, the rights of which Messrs. S. Smith & Sons (M.A.), Ltd., have acquired. There are four distinct sizes, which are designed to fill every requirement of the motorist. They are cylindrical in shape, and of a very neat and attractive appearance, as will be seen from the accompanying illustration. Each machine is provided with a neat Cradle for holding it in position, so designed that any dynamo can be very easily and quickly detached by merely undoing two screws.

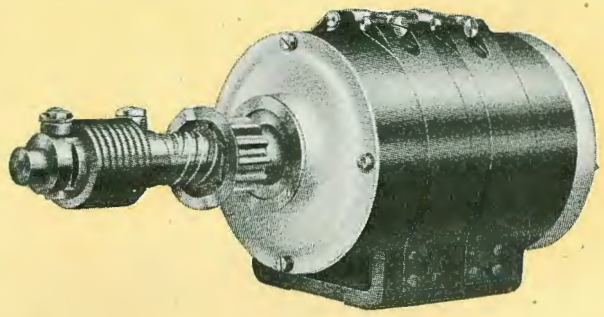
The regulation of the current is entirely automatic, there being no vibrating contacts to get out of adjustment and give trouble. Both theoretically and practically it can be proved that for a given output the heating of the Armature is one-half that of the ordinary type of Dynamo. This provides a considerable saving in weight.

Each model has a low cutting-in speed, and possesses the advantage that its output rises very rapidly to its maximum value as the speed increases, after which it remains constant.

All terminals are mounted under the end cover of the machine, where they are protected from accidental short circuit, and the whole machine is dust and weather-proof. There is a particularly rapid rise of current, and we guarantee a steady and constant output at all speeds after the maximum current has been attained.

The principal advantages and distinctive features of the Smith Dynamo are :—

1. Large output with comparatively small size and neat appearance.
2. Extremely simple construction and light weight.
3. Low generating speed and constant output over a very wide range.
4. Sparkless commutation and consequent long life of brushes and commutator.
5. Automatic regulation of output without the use of vibrators or other complicated mechanical devices.
6. Dynamo entirely enclosed, dust and weatherproof.
7. Material and workmanship of the best throughout.
8. Simple and reliable under all conditions.



The Smith Starter Motor

THE Smith Starter Motor, like the Smith Dynamo, is circular in shape, and is of the same general appearance. It is series wound, and exerts a High Starting Torque, which is of the greatest importance to ensure certain and positive Starting. We claim that these Starter Motors will start up an engine from cold under any conditions. The Smith Starter Motor has been so designed as to secure a proper balance between the Starting Torque, horse power, and current consumption, and the weight and size have been reduced to the minimum compatible with strength, durability, and efficiency. The Starting and Running Current is comparatively low, thus prolonging the life of the battery, and the Armature Shaft is mounted on Ball Bearings, which greatly increases the efficiency of the machine. Like the Dynamos, the Starter Motors have all the Terminals under the end cover, and the connections are of the simplest description. This constitutes a real advantage over those Starters which have a number of their Terminals on the outside of the carcase, and complicated connections to the starting switch.

The drive adopted is of the moving pinion type, and has proved eminently satisfactory for engaging and disengaging the Starter and Engine. In this type of drive the shock of the engagement is taken by a strong spring, which prevents the teeth on both the Starter and the Flywheel from being damaged. The Driving Pinion engages with teeth, either cut on the rim of the Flywheel or with a toothed ring bolted to the Flywheel of the engine. Our drive is exceedingly simple and robust, and experience has proved that it is absolutely trouble-proof.

The range of models covers all classes of engines, and all types of cars, both for pleasure and commercial purposes, and all models are wound for 12 volts unless otherwise ordered. A Cradle with straps is supplied for each machine if required.

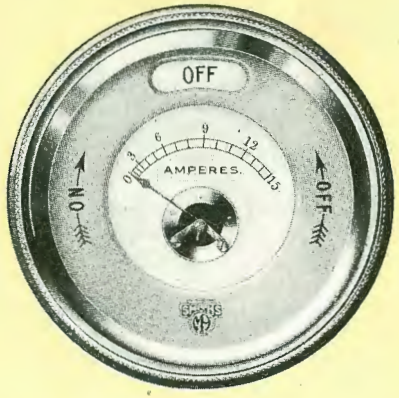
The chief advantages and distinctive features of the Smith Starter Motor are :—

1. High Starting Torque, enabling the engine to start immediately from cold.
2. Very high horse-power, ensuring that the engine is turned rapidly.
3. Low current consumption.
4. Extreme simplicity of connections, and no External Terminals.
5. Dust and weather-proof.
6. Simple and reliable under all conditions, and easy to fit in position.
7. The minimum of size and weight, with guaranteed large output.
8. The materials used and the workmanship of the very best throughout.

The Smith Combined Lighting and Starting Unit

For those who prefer a single-unit system for Lighting and Starting a car we have designed a most excellent model, which has given first-class results in actual and comparative tests. This machine can be used with advantage on a number of cars where the fitting of a two-unit system presents difficulties, or is too costly to instal.

It embodies in their entirety all the outstanding features and advantages of the Smith Dynamo and the Smith Starter Motor—is manufactured from the same high-grade materials by skilled workmen. We confidently recommend the Smith Combined Starting and Lighting Unit to all interested in this system.



The Smith Switchboard

An entirely novel type of Switchboard has been designed for use with the Smith Lighting System, and in appearance and efficiency nothing quite like

it is to be found on the market. It is an enormous improvement on anything hitherto offered, both for high-class quality and attractive appearance. The Smith Switchboard, as will be seen from the illustration, is circular, and exactly matches the Smith Speedometers and Smith Motor Clocks illustrated on previous pages.

The switching operations are performed by rotating the knurled bezel of the instrument, and the combinations "ALL OFF," "SIDE," "HEAD," and "ALL ON" appearing in succession at the top of the switch dial as the bezel is turned.

A high-class Ammeter is mounted in the centre of the dial, and the switchboard can be wired up on the double contact or "earth" return system as desired. The construction of the Smith Switchboard is, of course, patented.

As will be seen from the accompanying leaflet, a most handsome and dignified dashboard is obtained by mounting a Bezel Switchboard in the centre, a Smith Speedometer on one side, and a Smith Motor Clock on the other.

The Smith Commercial Switchboard for mounting on the dash is also entirely new, simple, and neat, and a great advance on previous models.

The principal distinctive features of the Smith Switchboard are :—

1. Its unique and attractive appearance.
2. Simplicity of operation by means of the bezel wind.
3. Its robust construction generally, and the high-grade quality of the materials used.

The Smith Storage Battery

It has often been said that a Storage Battery is the weakest feature of a Starting and Lighting System, but this part of the new Smith equipment is a great advance on any previous effort.

The Smith Storage Battery has been specially designed and constructed, not only to take care of the Lighting System, but also to withstand the heavy discharge required for Starting purposes.

It embodies all the latest improvements, the results of exhaustive laboratory, and road tests, and provided that the few simple but extremely important instructions are carefully followed it can be absolutely relied upon under the most severe conditions of service.

The plates used are of the most approved thin pattern, and are mounted in Ebonite cells, with Wood separators. Special vent plugs are provided which entirely eliminate spraying and splashing over the terminals and wires of the battery box, and greatly facilitate the filling of the cells and the testing of the Electrolyte. The terminals are large and lead coated, to prevent corrosion and the consequent trouble due to bad contacts.

All batteries are mounted in extra strong wood cases and the tops are sealed over with a special acid-proof compound.

The chief features of the Smith Storage Battery are :—

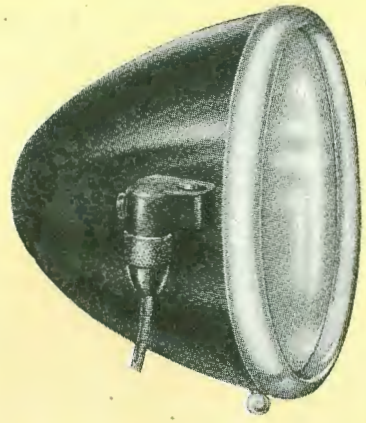
1. High capacity with comparatively small size and weight.
2. Low internal resistance and thin plates, which are free from buckling.
3. Robust construction and mounted in strong boxes.
4. Great durability and long life.

The Smith Cut-Out and Fuse Box

The reliability of the cut-out is all important to the satisfactory working of a lighting system, and the Smith Cut-Out will be found to be entirely dependable. This piece of apparatus is of the same type as has proved so reliable in the past.

It is positive in its action, has large contact surfaces, and needs no adjusting. Consisting of an electro magnet, controlled by a special combination of windings, and a set of contacts, it is absolutely the best Cut-Out for Motor Car lighting yet produced.

Incorporated with the Cut-Out is a Field Fuse, which prevents the dynamo from damage should it accidentally become disconnected from the battery, and as the Cut-Out automatically connects and disconnects the dynamo and the battery, a charging switch is not provided on the Switchboard, thus making the operation of the system perfectly simple.



The Smith Motor Lamps

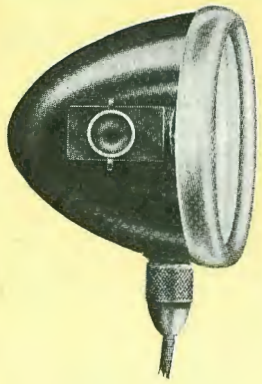
The external appearance of a car is either improved or detracted from by the lamps it possesses.

In the day time they are always conspicuous, and it is therefore essential that they be designed and finished in good taste.

At night time they must give adequate illumination to protect both the motorist and the walking public from the unseen dangers that lurk in the dark. It is therefore absolutely necessary that motor car lamps give efficient and satisfactory illumination.

Again, they must be strong and sturdy, and able to withstand the hard usage and rough vibration which they receive.

In designing the new Smith Motor Lamps special attention has been given to these important points, and many new and useful features have been incorporated.



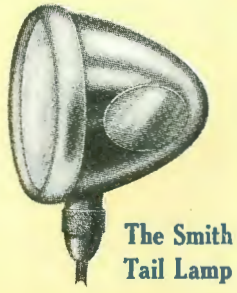
The Smith Side Lamp

In shape the Smith Motor Lamps follow "Stream line" design, which give them a neat and workmanlike appearance, well shown in the accompanying illustrations.

Our object in designing this lamp has been to give the maximum size of reflector in the minimum size of body, and we have dispensed with all hinges, thereby doing away with projections and obviating parts of the lamp from coming apart.

An important feature is the method of fixing the front bezel. This is secured by two long screws fitted through the lugs of the lamp, which fasten the bezel in such a way as to make it absolutely water, dust, and air-proof, so that there is no possibility of the reflector becoming tarnished.

Great care has been taken to provide a really satisfactory method of leading the current into the lamp, and this is done by means of a well-made plug and adaptor on one side of the lamp. The cable supplying the lamp runs up the lamp bracket and enters the lamp vertically without any bend at the point of entry, thus avoiding a frequent source of trouble. We have adopted the double-wire system.



The Smith Tail Lamp

The focussing of the lamp is simplicity itself. This is accomplished by slackening the screws which attach the front bezel to the

body and rotating the reflector by means of a knob beneath the lamp.

This has the effect of moving the bulb forward or backward as desired, and care must be taken to tighten up the screws after the desired focus has been secured.

The Smith Motor Lamps can be supplied finished in either black enamel with nickel fronts, all nickel, or all brass, to suit the requirements of customers.

For commercial purposes a similar model with a much heavier front has been designed, and this will be supplied in stove enamel black finish only.

The chief features of the Smith Motor Lamps are :—

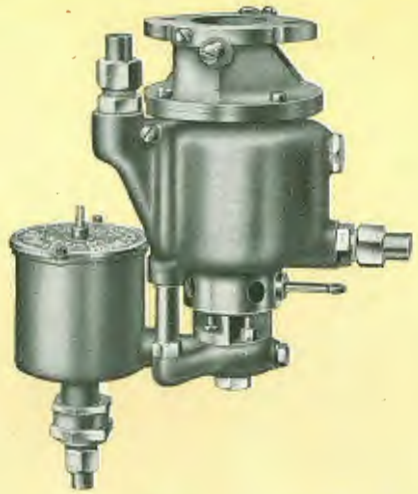
1. Elegance of design and high-class workmanship.
2. Large sized reflector guaranteeing maximum illumination.
3. Entirely without hinges, thereby preventing loss of any of the lamp parts.
4. Water, dust, and air-proof.
5. New method of running cables, obviating bending or twisting.
6. Simplicity of focussing.
7. Strong and sturdy, to withstand hard usage and vibration.

Smith's Four-Jet Carburetter

THE Smith Four-Jet Carburetter is not a new conception, but is the result of 16 years' experience in the building of carburetters. A few years ago this successful Carburetter was produced, since when there has been a continually increasing demand, and it is still steadily gaining in popularity.

During the War it has been fitted to many thousands of vehicles, for use on the various fighting Fronts, and has fully maintained its position as the most reliable carburetter extant. The experience gained during the period of hostilities has enabled us to further perfect the apparatus, and we claim that the mechanical alterations and additions which we have made guarantee great power, rapidity in acceleration, flexibility, maximum economy, silent running, and easy starting. In each of these essentials the Smith Four-Jet Carburetter excels, because of its unique and simple construction, it being practically four carburetters in one, each being brought into action or cut out by the movement of the controlling valve.

The float chamber is of the usual type, and is fitted with a platform carrying four jets. Each jet projects into a separate vertical passage or choke tube. Each of the four choke tubes terminates at its upper end in a separate rectangular port, opening radially in the circular wall of the upper portion, each port being at a different height. Over



The Smith Four-Jet Carburetter

this circular upper portion is fitted a sliding sleeve valve or dash pot, which forms the automatic device for controlling the ports. These ports are arranged to overlap, so that each one begins to be uncovered before the previous one is fully open, which ensures regularity of the mixture throughout the range. In order to facilitate starting when using heavy petrol, an additional jet of the submerged or well type has been added. This gives an extra strong mixture for the first few revolutions until the well is exhausted, after which it automatically becomes normal.

Before the motor is started the controlling valve is at its lowest position, and all the ports are shut except the first port, which remains half open. When the motor is started the suction is concentrated upon the first jet only, consequently the air is given sufficient velocity to thoroughly atomize the petrol and ensure easy starting.

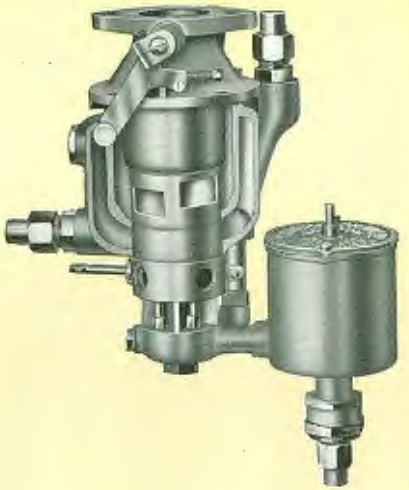
As the throttle is opened and the engine suction increases, the controlling valve automatically rises and opens successively the second, third, and fourth ports, so that when the motor is developing its maximum power all the four ports are fully open and all jets in operation.

The number of jets in action is not controlled by the movement of the throttle, but is controlled automatically in accordance with the volume of mixture passing to the engine, consequently the strength of the mixture is not affected by the position of the throttle, which can be fully opened at any moment without choking the engine.

The best results are obtained by using a comparatively small jet for the first choke tube, which is smaller than the others, a large jet for the second choke tube, and a slightly smaller jet for each succeeding choke tube.

Every jet is calibrated and stamped with the number of cubic centimetres of petrol passed per minute with a suction of 6-in. head of petrol, this being the actual degree of suction automatically maintained on each jet when in operation, whatever the speed of the engine may be. It will therefore be seen that the strength of the mixture can be adjusted at any point by simply changing one of the jets, which can be done in a few minutes owing to their accessibility, it only being necessary to remove one nut to enable the jets to be changed.

The above feature, which exists in no other automatic carburetter on the market, is of the utmost importance in obtaining the best results as regards easy starting, flexibility, slow running, acceleration, maximum power, and economy.



The Smith Four-Jet Carburetter
(sectional view)

In addition, provision is made by means of a rotary sleeve operated by a lever on the dashboard, by which the driver can alter the mixture whilst the car is running to suit varying atmospheric conditions, or in order to economise petrol by using a weak mixture for light running and reverting to full power proportions for hill climbing.

The float chambers of Smith's Carburetter may be fitted in eight different positions, and the carburetter in eight different positions in relation to the throttle valve, whilst the water connections may be made from four different points. We have found in actual experience that certain jets are suitable for a certain make of engine of given horse-power; thus when we have once got the correct jets for the type of engine, we can send out a carburetter

which is practically certain to give the best possible results. Of course we cannot lay this down as an infallible rule, as a good deal depends upon the condition of the engine. No special tool is required for dismantling the carburetter or for changing the jets.

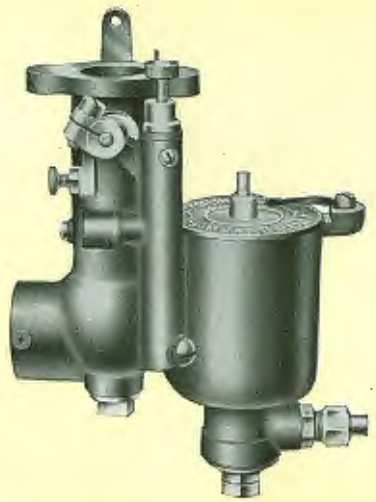
The Smith Carburetter can be fitted to every known make of car easily and quickly, and once correctly fitted it rarely requires any adjustment or attention. Extraordinary results in petrol saving have been obtained by customers on different makes of cars. We have it on record that several users of the carburetter have reduced their petrol consumption by 30% to 40%, and at the same time have obtained greater power, flexibility, and more silent running.

Smith's Single-Jet Carburetter

IN addition to the popular Four-Jet Carburetter already referred to, we have designed an entirely new Single-Jet Carburetter of the straight, plain-tube type, having a wide speed range and suitable for engines of any speed. In actual performance during the last three years the Smith Single-Jet Carburetter has given most wonderful results, and we are confident that this carburetter has a great future before it.

Smith's Single-Jet Carburetter is entirely different in principle from any other known make. It is not a suction-controlled carburetter (where the engine suction controls the petrol drawn from the jet or tubes), but it is a throttle-controlling jet suction carburetter. It is of the simplest possible construction, there being no moving parts only one jet, and an outside adjustment for the slow running, which has no influence over the main working of the carburetter.

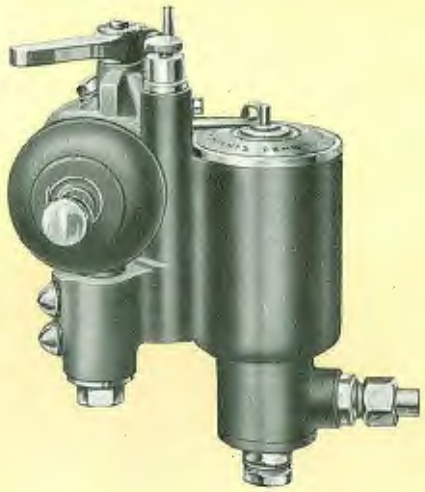
To take care of variation of temperatures there is an extra mixture correction device, which can be operated from the dash board, or otherwise, as convenient. By use of this device a larger jet than is necessary can be fitted in the carburetter, which enables the engine to warm up quickly in cold weather, and directly the motor is hot, additional air can be admitted, reducing the suction on the jet, which is equivalent to fitting a jet of a smaller size.



The Smith Single-Jet Carburetter (vertical pattern)

For starting up and getting away a slightly rich mixture is provided, which ensures extremely rapid acceleration, and as a perfectly correct mixture is delivered at all positions of the throttle the carburetter guarantees extremely smooth running all the time. A special form of filter is incorporated in the carburetter itself, which makes the choking-up of the jet by foreign matter an impossibility.

Every jet is calibrated by the flow of petrol through the small hole in cubic centimetres per minute ; thus any jets marked the same size will deliver exactly the same quantity of petrol in a given time. This method is a great advance over that in use by carburetter manufacturers generally, viz., the marking of the jet by the size of the drill used. It is well known that it is an impossibility to drill such small holes to the great accuracy required.



The Smith Single-Jet Carburetter (horizontal pattern)

The Smith Single-Jet Carburetter requires no tuning up, and can be taken out of stores and fitted as easily and as quickly as a tyre, a lamp, or a horn. There is nothing to get out of order, and it will last as long as a car, and for these reasons it is specially suitable for standardization by Motor Car Manufacturers, and is the ideal carburetter for commercial vehicles. This carburetter can be supplied in both vertical and horizontal models, in a full range of sizes suitable for all engines, whatever the horse-power.

Smith's 'Safety First' Warning Signal

PUBLIC safety must always be the first consideration of the Motorist, so that an adequate warning signal is an absolute necessity on every car. Smith's "Safety-First" Warning Signal is the most perfect mechanically-operated signal on the market, and it is the most effective. It gives a deep, penetrating note of warning which is heard and heeded instantly.

Smith's "Safety-First" Warning Signal in its inception and manufacture is thoroughly British. Skilled craftsmen in the British Motoring Industry are responsible for its design and make-up, and it is made and assembled by efficient British workmen in our modernly equipped Factories.

Considerable expense has been incurred in perfecting this horn, and after long research and exhaustive tests and experiments by impartial engineers, we claim that Smith's "Safety-First"

The Smith "Safety First" Warning Signal

The Smith "Motor Cycle" Warning Signal

Warning Signal is in every respect superior to the best horns imported from other countries.

Smith's "Safety-First" Warning Signal is made from specially-prepared and hardened steel, guaranteed to withstand the hardest possible wear.

Particular attention has been given to the Striking Wheel and Diaphragm, which are constructed in such a way as to give thorough and satisfactory service.

The tone is quite distinct and rises above all traffic noises, whilst the warning carries long distances and effectively "clears the road."

The actual weight of Smith's "Safety-First" Warning Signal is only 2-lbs. 9-ozs., and the measurements are :—Length, 9¼-in. ; Height, 6½-in. ; Diameter of front, 5-in. It is supplied in three finishes :— (1) Ebony Black Enamel ; (2) Nickel ; and (3) Brass.

We also make a smaller model for use on Motor Cycles, which can be supplied in either of two finishes: (1) Ebony Black Enamel, and (2) Ebony Black Enamel with Nickel Trumpet.

Smith's Bulb Horns

BEFORE the War practically the whole of the Bulb Horn Trade of this country was in the hands of foreign manufacturers. These imported horns possessed no particular merit, and were usually crude in manufacture and inefficient in use. They were procurable in a vast number of shapes and sizes, but none of the models were of a dignified or neat appearance.

Having in mind the shortcomings of these imported horns, we set ourselves to produce a bulb horn which would at once, by its appearance and effectiveness, command the respect of motorists everywhere, and we have succeeded in producing what we know to be the finest bulb horn that has ever been put upon the market.

This Horn is made in one piece from sheet metal of great strength. The workmanship is of the very best, whilst the design is of a neat and attractive appearance. Only selected reeds, which are carried in special fittings, are used in these horns, and the bulb is of the finest procurable rubber. It gives a

The Smith Bulb Horn (ordinary bracket)

The Smith Bulb Horn (universal bracket)

deep, rich note of warning, however slowly the bulb is compressed.

The Smith Bulb Horn will be supplied with either an ordinary bracket fitting, or a new Universal bracket fitting. This latter fitting is quite unique, and with it the horn can be fitted to a car in any conceivable position. In finish the horn may be had either all black, nickel, or brass, and the price for all finishes is the same.

Every Horn is carefully made, assembled and tested under the most exacting conditions before leaving the factory, thus ensuring perfection and serviceability. The Smith Bulb Horn is suitable for any make or size of pleasure car. It will also be found to be thoroughly efficient for commercial vehicles of every description.

The Smith Equipment

Prices

Below we give the prices of the Smith Equipment as far as it is possible for us to do at present. Owing to circumstances which we do not control, several specialities mentioned in the booklet have not as yet been priced, but in a week or two we shall be issuing a complete price list. In the meantime, will customers and friends interested in any speciality (not quoted) please communicate with us. The prices quoted are based on the prices of labour and material not exceeding those at present existing, and we reserve the right to increase these prices should the rate of wages or material increase, or should any act of the Government tend to increase the cost of production.

The Smith Speedometers

Smith's British Speedometer, as illustrated on pages 9 to 11, either flush or bracket fitting, in nickel or brass finish, including drive .. .. ..each	£5	10	0
Motor Cycle Speedometer, as illustrated on page 12, in either nickel or black finish, complete with drive	4	10	0

The Smith Bezel-Wind Motor Clocks

Pleasure Car Bezel-wind Motor Clock, as illustrated on pages 14 and 15, either flush or bracket fitting, in either nickel or brass finish ..each	£3	10	0

The Smith Gauges

Oil Gauge (to register up to any capacity) page 17 each	£1	1	0
Fuel Pressure Gauge (to register up to any capacity) page 18 ..each	1	1	0

Smith's Starting and Lighting System

Set No. 2

Part.		Size.	Price.
Starter (12 Volt)		No. 2B	£19 15 0
Dynamo (12 Volt)		No. 2A	16 0 0
Cut-out		—	1 15 0
Starter Switch		—	1 5 0
Bezel Operated Switch		—	6 6 0
Battery (12 Volt)		75 amps.	12 5 0
Head Lamps	Black and Nickel or Black and Brass	9½-in.	6 0 0
Side Lamps		5-in.	3 0 0
Tail Lamp		—	0 18 6
Dash Lamp		—	0 12 6
	Total Cost		£67 17 0

Price for No. 2 Set with Smith's Popular Switch instead of Smith's Bezel Operated Switch .. £65 6 0

For List and Prices of Extras, see page 46.

Smith's Starting and Lighting System

Set No. 3

Part.		Size.	Price.
Starter (12 Volt)		No. 3B	£17 15 0
Dynamo (12 Volt)		No. 3A	13 15 0
Cut-out		—	1 15 0
Starter Switch		—	1 5 0
Bezel Operated Switch		—	6 6 0
Battery (12 Volt)		60 amps.	10 0 0
Head Lamps	Black and Nickel or Black and Brass	8½-in.	5 10 0
Side Lamps		4-in.	2 10 0
Tail Lamp		—	0 18 6
Dash Lamp		—	0 12 6
	Total Cost		£60 7 0

Price for No. 3 Set with Smith's Popular Switch instead of Smith's Bezel Operated Switch .. £57 16 0

For List and Prices of Extras, see page 46.

Smith's Starting and Lighting System

Set No. 4

Part.		Size.	Price.
Starter (12 Volt)		No. 4B	£16 15 0
Dynamo (12 Volt)		No. 4B	12 15 0
Cut-out		—	1 15 0
Starter Switch		—	1 5 0
Bezel Operated Switch		—	6 6 0
Battery (12 Volt)		45 amps.	8 10 0
Head Lamps	Black and Nickel or Black and Brass	7½-in.	5 0 0
Side Lamps		4-in.	2 10 0
Tail Lamp		—	0 18 6
Dash Lamp		—	0 12 6
	Total Cost		£56 7 0

Price for No. 4 Set with Smith's Popular Switch instead of Smith's Bezel Operated Switch .. £53 16 0

For List and Prices of Extras, see page 46.

Smith's Starting and Lighting System

Set No. 5

Part.		Size.	Price.
Starter (12 Volt)		No. 5B	£14 15 0
Dynamo (12 Volt)		No. 5A	12 5 0
Cut-out		—	1 15 0
Starter Switch		—	1 5 0
Bezel Operated Switch		—	6 6 0
Battery (12 Volt)		45 amps.	8 10 0
Head Lamps	Black and Nickel or Black and Brass	6½-in	4 10 0
Side Lamps		4-in.	2 10 0
Tail Lamp		—	0 18 6
Dash Lamp		—	0 12 6
	Total Cost		£53 7 0

Price for No. 5 Set with Smith's Popular Switch instead of Smith's Bezel Operated Switch .. £50 16 0

For List and Prices of Extras, see page 46.

Smith's Starting and Lighting System

Set No. 6

Part.		Size.	Price.
Dynamo (6 Volt)		No. 6	£11 15 0
Cut-out		—	1 15 0
"Popular" Switchboard		—	3 15 0
Battery (6 Volt, 33 amps.)		—	5 5 0
Head Lamps	Black and Nickel	$6\frac{3}{4}$-in.	4 10 0
Side Lamps	or Black and	4-in.	2 10 0
Tail Lamp	Brass	—	0 18 6
Dash Lamp		—	0 12 6
	Total Cost		£31 1 0

Price with Smith's Bezel Operated Switch instead of Smith's Popular Switch .. £33 12 0

The Smith Starting and Lighting System Extras

For Sets—Nos. 2, 3, 4 and 5

Part.	Price.
Set of 5 Lamp Bulbs	£0 14 6
Lighting Cable	2 5 0
Starter Cable	1 5 0
Whittle Belt, $\frac{1}{2}$-inch.	0 12 0
Box of Clips for Cables, Screws, Insulating Tape, etc.	0 10 0
Total Cost	£5 6 6

For Set No. 6

Part.	Price.
Set of 5 Bulbs	£0 14 6
Lighting Cable	2 5 0
Whittle Belt, $\frac{1}{2}$-inch	0 12 0
Box of Clips for Cables, Screws, Insulating Tape, etc.	0 10 0
Total Cost	£4 1 6

The Smith Pleasure Car Head Lamps

Size.		Price.
$9\frac{1}{2}$-in.	In Nickel or Brass Finish .. per pair	£8 8 0
$8\frac{1}{2}$-in.	,, ,, ,, ... ,,	7 10 0
$7\frac{1}{2}$-in.	,, ,, ,, ... ,,	6 10 0
$6\frac{1}{2}$-in.	,, ,, ,, ... ,,	6 0 0

The Smith Pleasure Car Side Lamps

Size.		Price.
5-in.	In Nickel or Brass Finish .. per pair	£4 0 0
4-in.	,, ,, ,, ... ,,	3 5 0

The Smith Pleasure Car Tail Lamps

Size.		Price.
$3\frac{1}{2}$-in.	In Nickel or Brass Finish .. .. each	£1 5 0

The Smith Four-Jet Carburetter

	Price.
Size 25 .. .. each	£6 10 0
,, 30 .. .. ,,	7 10 0
,, 35 .. .. ,,	8 10 0
,, 40 .. .. ,,	9 10 0
,, 45 .. .. ,,	10 10 0
,, 50 .. .. ,,	11 10 0

The Smith Single-Jet Carburetter

	Price.
Size 22, Vertical or Horizontal .. .. .. each	£5 0 0
,, 26 ,, ,, ... ,,	6 0 0
,, 30 ,, ,, ... ,,	7 0 0
,, 36 ,, ,, ... ,,	8 0 0
,, 42 ,, ,, ... ,,	9 0 0

The Smith Mechanical Horns

Motor Car Model.

		Price.
All Black finish	each	£1 17 6
Brass or Nickel	„	2 9 0

Motor Cycle Model.

All Black finish	each	£1 15 0
Black and Nickel	„	2 7 0

The Smith Bulb Horns

	Price.
Fitted with Ordinary Bracket, as illustrated on page 39	£1 1 0
Fitted with Universal Bracket, as illustrated on page 40	1 5 0

A new Era in Motoring

THIS LITTLE BOOKLET TELLS all about the Smith post-war Motor Accessories, and is also a preliminary statement to Motor Car Manufacturers and the Motor Trade generally of the co-operation and service which S. Smith & Sons (M.A.) Ltd., are planning to give in the new motoring era ahead.

S. Smith & Sons
MOTOR ACCESSORIES · LTD ·
SPEEDOMETER HOUSE.
179-185, Gt Portland St., London, W.1.
Telephones Mayfair 6350 (6 lines)
Telegrams "Speedomet, Telew, London.

Midland Service Depot : 6, Livery Street, Birmingham
Northern Depot : 12, Jackson's Row, Deansgate, Manchester