

LIST 111.

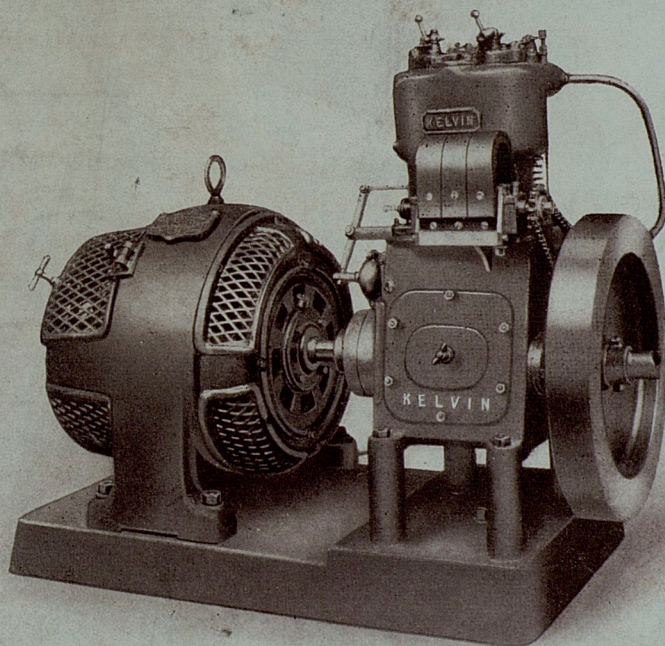
THE  
**KELVIN**

PORTABLE AND STATIONARY  
PETROL AND PARAFFIN-DRIVEN

# Electricity Generating Sets

— FOR USE WITH —  
**CINEMATOGRAPHS, &c.**

(BRITISH MAKE THROUGHOUT).



50-Ampere 60-Volt Stationary Set.

RELIABLE. ∴ COMPACT. ∴ EFFICIENT.

Sole Selling Agents for the Patentees and Manufacturers—

**FYFE, WILSON & CO.,**

145 BATH STREET, GLASGOW, N.B.

Telephones—Nat., 568 Douglas.  
P.O., 2968 Central.

Telegrams—"POLYPHASE, GLASGOW."  
Code, A.B.C., 5th Edition.

Agents in LONDON, MIDLANDS, NORTH OF ENGLAND, IRELAND,  
and the PRINCIPAL COLONIES.



C56 | 967

## Terms and Conditions of Sale.

Cash with order unless otherwise previously arranged.

If foreign orders are not accompanied by a Bank Draft, payment should be arranged through a British Bank or Business House.

Should terms other than cash with order be arranged, no minor defect—which may be discovered after the Set is at work—is to interfere with payment by the purchasers at the time or times stipulated, full provision being made for such possible defects under our Guarantee.

**Packing.**—Packing is charged extra.

**TO THE TRADE ONLY.**

**PRICES IN THIS CATALOGUE ARE SUBJECT TO  
15% and 10% DISCOUNT,  
And include Packing for Shipment f.o.b. Glasgow.**

**TERMS OF PAYMENT ON APPLICATION.**

**Please remove this Slip after having noted Discount.**

Every KELVIN Set, before leaving the factory, is run for several hours' duration. This test is to be accepted as final by the purchaser. We shall accept no responsibility thereafter other than that contained in our guarantee. We request the purchaser to be present at this test, where possible.

**Illustrations and Drawings.**—Illustrations and Drawings in this Catalogue or supplied with tenders are not binding as to detail. They can, however, be taken to give a correct general representation of the Sets.

**Replacements.**—Replacements for all sizes are kept in stock. In ordering, give the Engine or Dynamo Number and a sketch or description of the parts required.

**Installation.**—Every Set is accompanied by a KELVIN Instruction Book and Instruction Card.

— 1 —

W.D.  
L<sup>o</sup>  
138  
BR



C56 | 967

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**Packing.**—Packing is charged extra.

**Guarantee.**—Where the KELVIN Sets are for use in the British Isles, we guarantee to replace any part of the KELVIN Set proved to be faulty through bad workmanship or defective material within a period of 12 months from the date of despatch, provided such part is returned, carriage paid. In no case will we pay or be responsible for repairs made without our sanction, or for indirect damage, or any consequential loss or expense incurred by purchasers.

Where these Sets are for export, we request that purchasers shall arrange for inspection, examination and testing at the KELVIN works, as we will not entertain any claim after the machinery is shipped.

In the case of the occurrence of any strike, lock-out, fire, breakdown of machinery, defective casting, or any unforeseen cause of delay, the time fixed for the completion of the contract shall be extended accordingly.

Every KELVIN Set, before leaving the KELVIN Works, is subjected to a full load run of several hours' duration. This test is to be accepted as final by the purchaser. We shall accept no responsibility thereafter other than that contained in our guarantee. We request the purchaser to be present at this test, where possible.

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BR



## Introduction.

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It is scarcely necessary at this date to point out the great advantages attached to **Electricity** as an illuminant for good and effective Cinematograph Work. Its superiority is pronounced even with ordinary films, and with stained films—the opacity of which is greater—Electricity becomes an actual **necessity**.

That Electricity has not been universally adopted for Cinematograph work is due mainly to two facts. The first, that in a great many of the smaller towns and villages an electricity supply is unobtainable; the second, that where an electricity supply is obtainable the voltage is unsuitable and the cost prohibitive, while the official restrictions are usually troublesome and oppressive.

To overcome these obstacles we introduced, nearly four years ago, **THE KELVIN PORTABLE & STATIONARY ELECTRICITY GENERATING SETS**. The KELVIN Set enables the Cinematograph Showman to have his **50 Ampere Arc** in town or country **independent of any Corporation or Public Supply Company**. Moreover, they enable him to have his supply at a **Fraction of the Cost** of Electricity as supplied by a public supply company.

**He can have his 50 Amperes at the Right Voltage for about 3d. per Hour.**

The KELVIN Engine is now manufactured at the new KELVIN Works, 254 Dobbie's Loan, Glasgow. These Works were completed in April, 1910, and equipped with thoroughly up-to-date labour-saving and accurate tools, comprising the best of British, American, and German machines.

The success achieved by our KELVIN Generating Sets, both Stationary and Portable—since we placed them on the market a few years ago, has abundantly proved to us that they meet a demand previously unsatisfied.

The explanation of this success is simple. It is that the KELVIN Combination is **not** of the ridiculously light and very high-speed type placed on the market by so many makers. Such sets quickly knock themselves to pieces and cause endless trouble.

The KELVIN, on the other hand, is of moderate weight, has plenty of "Stuff" in it, and runs at a moderate speed. It is designed throughout for **efficiency, simplicity, and long life**.

Further, these **KELVIN Sets can be run and attended to by inexperienced and unskilled men**, and can be easily transported from place to place, quickly packed for transit, and as quickly unpacked and started. We have received splendid testimonials from the **ACTUAL USERS** of these Sets and shall be pleased to show them to enquirers.

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## WHAT THE KELVIN DOES FOR THE CINEMATOGRAPH SHOWMAN.

1. It makes him **ABSOLUTELY INDEPENDENT** of Corporation or Private Companies for the Supply of his Electricity.
2. It does away with the extra cost of temporary connections and official restrictions.
3. It renders unnecessary the big extra expenses for carriage and risk involved when using Gas.
4. It enables him to move from place to place knowing that wherever he goes he has the **CHEAPEST SUPPLY OF ELECTRICITY**.
5. It enables him to light his Hall or make a brilliant show at his Entrance at a Negligible Cost.
6. It **SAVES HIM FROM 80 PER CENT. TO 95 PER CENT.** of the Cost of Lighting his Lantern.
7. It gives him a **Brilliant and Steady Picture**.
8. It attracts the crowds and multiplies his profits.



## General Description.

### ENGINE.

The KELVIN ENGINE is constructed on the four or "OTTO" cycle principle, similar to slow-speed gas engines. This is a more expensive type to manufacture than the two-cycle or American. The cost is, however, amply justified by greater reliability and lower fuel consumption. Both Petrol and Paraffin Engines are made. (Petrol, gasoline and essence are alike. Paraffin, kerosene, and petroleum are alike.)

Paraffin engines are started up by running on Petrol for about one minute.

**Design.**—Compactness has been for years the keynote of the design, and no engine on the market is so free from projections and yet so accessible to all parts. By the introduction of **ball bearings** the length of the Engine has been reduced. Every important part is immediately accessible without disturbing other parts. The crank shaft can be withdrawn at either end. The cylinders can be removed in a few minutes.

**Ignition.**—Ninety per cent. of the stoppages of motor engines are caused by ignition trouble. The KELVIN ignition is by low tension magneto (dynamo). **This ignition requires no batteries, coils, or accumulators**, and gives a powerful spark with the first turn of the handle. The engine is instantly started after having stood any length of time. For damp climates this is the only form of ignition absolutely dependable. KELVIN Heavy Type, two and four cylinder Engines, are fitted with the **Bergius starting device**, by means of which the engines can be started without the vigorous cranking required with other makes.

**Vaporiser.**—Both the Petrol Carburettor and the Paraffin Vaporiser are entirely automatic, and **require no manipulation of fuel, or air valves** even for starting.

**Coolness.**—The water circulation round the cylinder jackets is effected by means of a **plunger pump** driven by the engine. A positive and ample water circulation is thereby ensured, enabling the engine to run very coolly.

**Governor.**—The Governor of the engine is very effective, and, taken in conjunction with the special design of the windings of the dynamo, **a steady voltage from no-load to full-load is obtainable.**

**Completeness.**—To compare the cost of KELVIN Sets with other makes usually means drawing an unfair comparison, as with KELVIN Sets such parts are supplied as tanks, piping, and an ample supply of spares and tools.

**Material.**—Material is of the best throughout. Bearings of hard phosphor bronze. Crank-shaft of forged steel. Piping of copper. Working cams, pins, and plungers of hardened steel. Springs galvanized.

### DYNAMO.

**General.**—The Machine is of the highest quality obtainable, highly efficient, mechanically strong, and thoroughly reliable in every sense.

**Ball Bearings.**—The Dynamo is fitted with **Ball Bearings**. These are of the best quality obtainable, liberally designed, and are so fitted to the bearing brackets that there is no possibility of dust getting into the ball race.

**Carcase.**—The magnet yoke is of cast iron of specially selected quality. The poles are of mild steel and are cast in with the yoke, thus ensuring perfect magnetic connection. Laminated pole shoes are provided.



**Armature.**—This consists of a core built up of specially selected charcoal iron discs, insulated from one another to eliminate eddy currents as far as possible, and slotted to take the windings, the latter being thoroughly and efficiently insulated from the core. The armature coils are of the barrel type, former wound and interchangeable. Great care is taken to ensure both electrical and mechanical balance, also thorough ventilation of the core and windings.

**Shaft.**—The shaft is turned from a mild steel bar, machined and ground all over.

**Commutator and Brushgear.**—The commutator is carefully built up of hard drawn copper bars which have a large margin of wearing surface. The mica insulation between the bars is specially selected so as to give even wear. The brush pillars are carried directly from the bearing brackets. The brush holders are designed so as to have as few screwed and hinged joints as possible; they have the usual adjustments, and replacement of brushes is easy. The brushes are of carbon.

**Field Coils.**—These are specially designed, are wound on formers, and are easily removed from their respective poles. Great attention is given to the insulation so as to minimise the risk of breakdown, and the coils are thoroughly baked and varnished to exclude all moisture.

**Insulation.**—This is of best mica and fibrous material throughout, and of sufficient thickness to protect the windings both mechanically and electrically. All windings are tested to earth with alternating current at a pressure **four times** the normal working pressure of the machine.

## SHUNT REGULATOR.

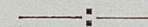
The Shunt Regulator is of substantial construction and ample range.

## SWITCHBOARD.

The Switchboard is of strong construction and well finished, the mountings being of the best quality. All self-contained connections of the board are completed, and should it be necessary to alter these connections, this is simply done by removing the back of the board.

## TRUCK.

The Truck is built up of angle iron framework mounted on heavy axles. The sides are made easily removable, while the top is hinged and padlocked. The whole is designed to resist rough usage and is very compact.



## Important.

We send out with each Set an Instruction Card giving clear instructions as to the connecting up of the Set, starting, stopping, &c. We also send an Instruction Book giving full particulars of the Engine with instructions as to how to act in the event of a mishap.

Diagrams 1 and 2, on page 12, are reproductions of those printed on the Instruction Cards.

The KELVIN Generating Sets can also be used for Lighting the Inside of the Hall or for Lighting the Entrance to the Hall in conjunction with supplying current for the Cinematograph Arc.

The Whole Apparatus is **BRITISH-MADE.**



## STANDARD 50-AMPERE 60-VOLT PORTABLE KELVIN GENERATING SET.

Consisting of :—

One Kelvin Two-Cylinder  $3\frac{1}{2} \times 4\frac{3}{4}$ " Engine, complete with low tension magneto ignition, governor controlling throttle, vaporiser, water-circulating pump, bend and short length of piping for exhaust connection, bend and short length of copper pipe finished to receive rubber piping, strainer and cock, copper fuel pipe and filter, 12-hour galvanized fuel tank with mountings, lubricating oil box with drip feed, petrol starting tank in the case of paraffin engine.

The above Engine mounted on cast iron combination bedplate and coupled direct to :—

One dynamo specially wound, capable of giving an output of 50 amperes at 60 volts for long periods.

Shunt Regulator.

Switchboard having mounted thereon : One Ammeter, One Voltmeter, One Double Pole Main Switch and Fuses in teak case, One Voltmeter Switch, Four Connection Terminals, all self-contained connections.

Tool Box containing six spanners, gas wrench, pair of pliers, screw driver, oil can, petrol squirt, spare tappet, rods, springs, ignition parts, insulators, bolts, nuts, washers, joints, one book of pole-finding paper, instruction card, instruction book, &c.

All the above mounted on substantial truck built on iron framework and having removable sides and top.

Complete as above :—

For Petrol .....	£137	Code Word, "Tripet."
For Paraffin .....	£142 10s.	Code Word, "Tripar."
Extra Box of Spare Parts (recommended, for Export),	£6 10s.	Code Word, "Tripetite."
Approximate Net Weight, 1567 lbs.	Approximate Gross Weight, 2300 lbs.	
Shipping Measurements, 75 Cubic Feet.		

## STANDARD 50-AMPERE 60-VOLT STATIONARY KELVIN GENERATING SET.

Consisting of :—

One Kelvin Two-Cylinder  $3\frac{1}{2} \times 4\frac{3}{4}$ " Engine, complete with low tension magneto ignition, governor controlling throttle, water-circulating pump, vaporiser, 16 feet copper water piping, cooling tank with mountings, 16 feet fuel pipe and filter, flanges and bend for exhaust, lubricating oil box with drip feed, 12 hour galvanized fuel tank with mountings, petrol starting tank in the case of paraffin engine.

The above mounted on cast-iron combination bedplate and coupled direct to :—

One Dynamo specially wound, capable of giving an output of 50 amperes at 60 volts for long periods.

Shunt Regulator.

Switchboard having mounted thereon : One Ammeter, One Voltmeter, One Double Pole Main Switch and Fuses in teak case, One Voltmeter Switch, Four Connecting Terminals, all self-contained connections.

Tool box containing six spanners, gas wrench, pair of pliers, screw driver, oil can, petrol squirt, spare tappet rods, springs, ignition parts, insulators, bolts, nuts, washers, joints, one book of pole-finding paper, instruction card, instruction book, &c.

Complete as above :—

For Petrol .....	£131	Code Word, "Tripetros."
For Paraffin .....	£138 10s.	Code Word, "Triparos."
Extra Box of Spare Parts (recommended for Export),	£6 10s.	Code Word, "Tripetite."
Approximate Net Weight, 1000 lbs.	Approximate Gross Weight, 1344 lbs.	
Shipping Measurements, 37 cubic feet.		

NOTE.—If ordered for export, no Cooling Tank is supplied with this Set.

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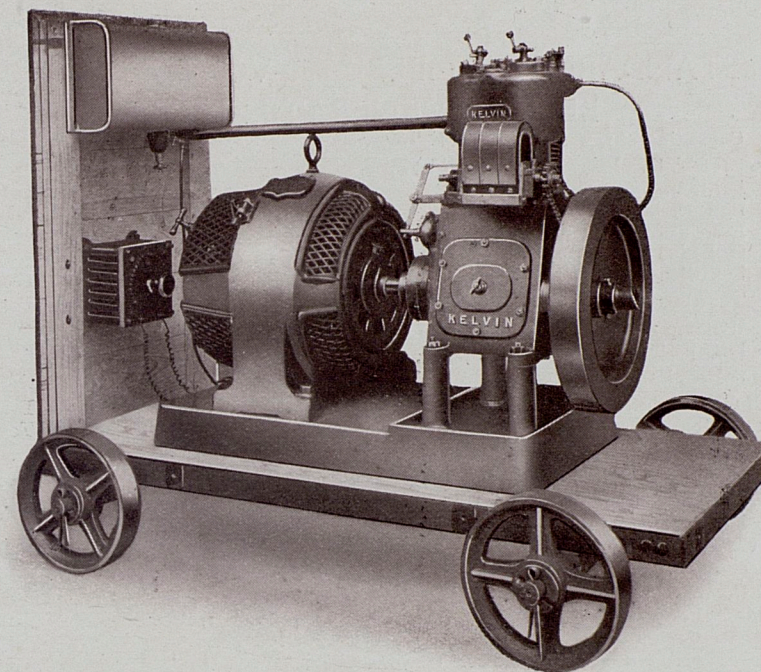


Fig. 2.

50 Ampere 60-Volt Portable Set in use. Switchboard and Regulator not shown.

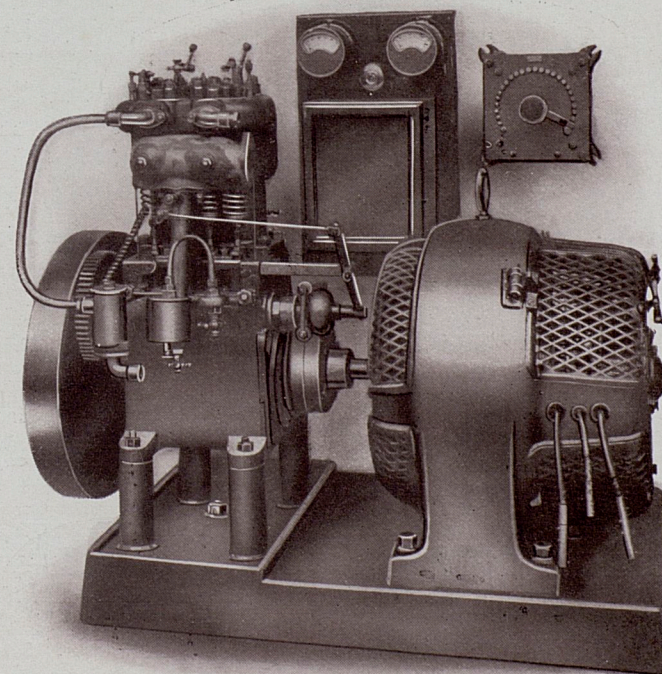


Fig. 3.

50-Ampere 60-Volt Stationary Set, shewing Switchboard and Shunt Regulator.

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## STANDARD 70-AMPERE 60-VOLT PORTABLE KELVIN GENERATING SET.

Consisting of :—

One KELVIN Single-Cylinder  $5\frac{1}{2}'' \times 7''$  Engine, complete with low tension magneto ignition, governor controlling throttle, vaporiser, water-circulating pump, flanges, bend and short length of piping for exhaust connection, bend and short length of copper pipe finished to receive rubber piping, strainer and cock, copper fuel pipe and filter, 12 hour galvanized fuel tank with mountings, lubricating oil box with drip feed, petrol starting tank in the case of paraffin engine.

The above engine mounted on cast iron combination bedplate and coupled direct to :—

One dynamo specially wound, capable of giving an output of 70 amperes at 60 volts for long periods.

Shunt Regulator.

Switchboard having mounted thereon : One Ammeter, One Voltmeter, One D.P. Main Switch and Fuses in teak case, One Voltmeter Switch, Four Connection Terminals, all self-contained connections.

Tool box containing six spanners, gas wrench, pair of pliers, screw driver, oil can, petrol squirt, spare tappet rods, springs, ignition parts, insulators, bolts, nuts, washers, joints, one book of pole-finding paper, instruction card, and instruction book, &c.

All the above mounted on substantial truck, built on iron framework and having removable sides and top.

Complete as above :—

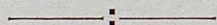
For Petrol ..... £158 Code Word, "Quapet."

For Paraffin ..... £165 10s. Code Word, "Quapar."

Extra Box of Spare Parts (recommended for Export) ..... £6 10s. Code Word, "Quapetite."

Approximate Net Weight, 1900 lbs. Approximate Gross Weight, 2250 lbs.

Shipping Measurements, 100 cubic feet.



## STANDARD 70-AMPERE 60-VOLT STATIONARY KELVIN GENERATING SET.

Consisting of :—

One KELVIN Single-Cylinder  $5\frac{1}{2}'' \times 7''$  Engine, complete with low tension magneto ignition, governor controlling throttle, water-circulating pump, vaporiser, 16-feet water piping, cooling tank with mountings, 16-feet fuel pipe and filter, and bend for exhaust, lubricating oil box with drip feed, 12 hour galvanized fuel tank with mountings, petrol starting tank in the case of paraffin engine.

The above mounted on cast iron combination bedplate and coupled direct to :—

One dynamo specially wound, capable of giving an output of 70 amperes at 60 volts for long periods.

Shunt Regulator.

Switchboard having mounted thereon :—One Ammeter, One Voltmeter, One D.P. Main Switch and Fuses in teak case, One Voltmeter Switch, Four Connection Terminals, all self-contained connections.

Tool box containing six spanners, gas wrench, pair of pliers, screw driver, oil can, petrol squirt, spare tappet rods, springs, ignition parts, insulators, bolts, nuts, washers, joints, one book of pole-finding paper, instruction card, and instruction book, &c.

Complete as above :—

For Petrol ..... £151 10s. Code Word, "Quapetros."

For Paraffin ..... £159 Code Word, "Quaparos."

Extra Box of Spare Parts (recommended for Export) ..... £6 10s. Code Word, "Quapetite."

Approximate Net Weight, 1430 lbs. Approximate Gross Weight, 1730 lbs.

Shipping Measurements, 70 cubic feet.

**NOTE.**—If ordered for export no Cooling Tank is supplied with this Set.

**PRICES AND PARTICULARS OF LARGER SIZES ON APPLICATION.**

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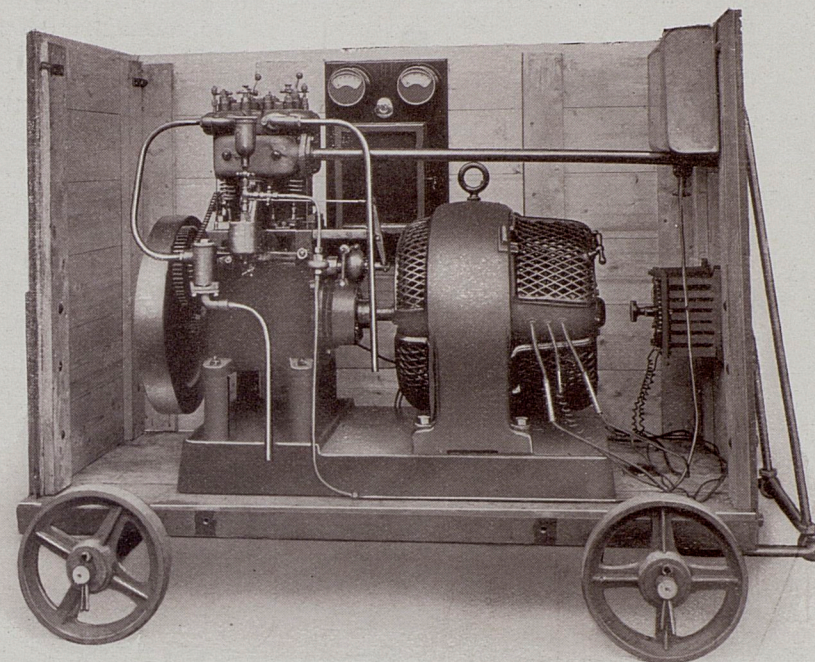


Fig. 4.

Another view of 50-Ampere 60-Volt Portable Set, with one Side and Top of Truck removed, and showing Switchboard and Shunt Regulator.



Fig. 5.

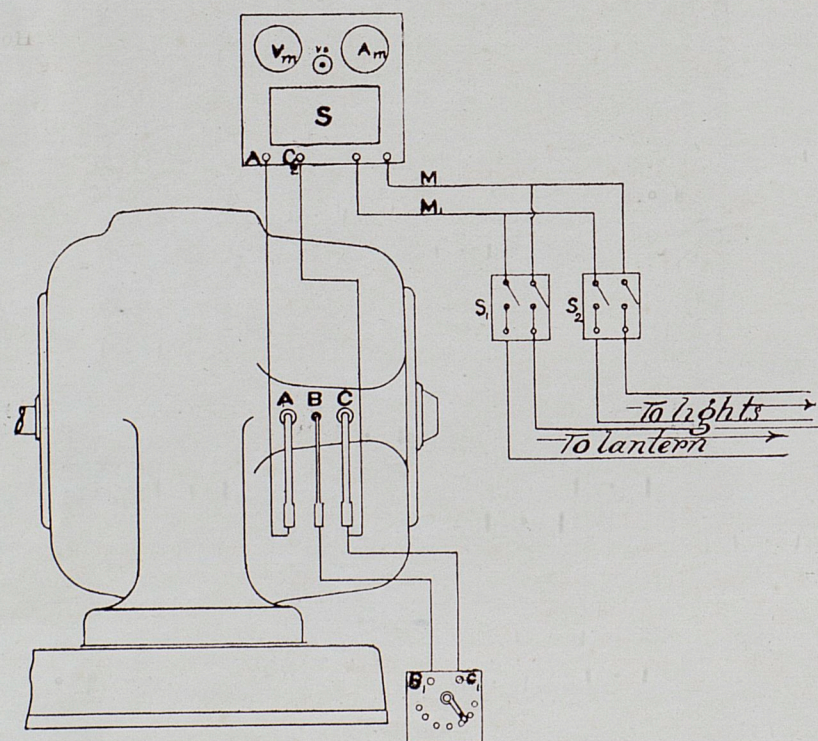
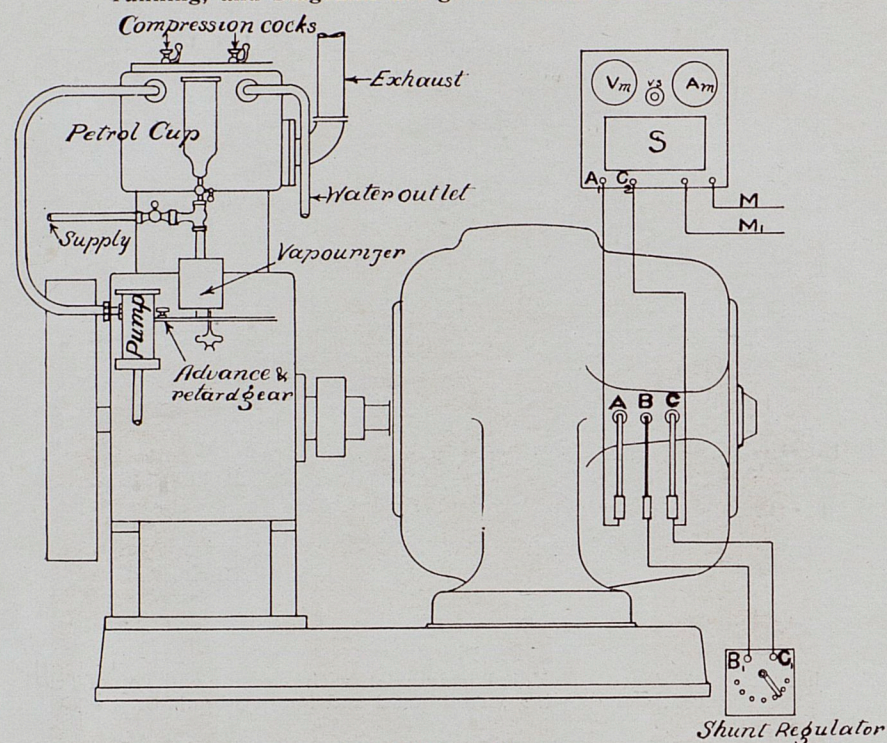
En Route.

Overall Dimensions, 4' 9"  $\times$  3' 3"  $\times$  4' 1" high.

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We provide with each KELVIN Set an Instruction Card. This should be fixed near the Set. Full instructions are given for connecting up and running, and Diagrams are given similar to those below.



We also provide a Booklet giving Instructions as to how to act in the event of a mishap to the Engines.

## SUNRAE FLAME ARC LAMPS FOR CINEMATOGGRAPH HALLS, &c.

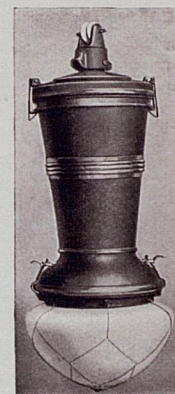


Fig. 6.  
"C" Type, 10-12 Hour.  
6 Amperes.

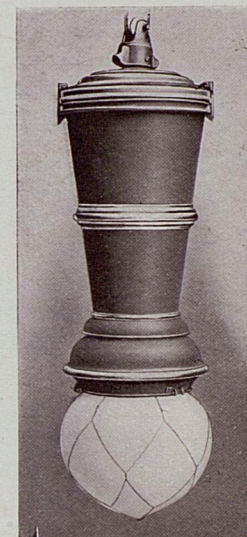


Fig. 7.  
"B" Type, 18-20 Hour.  
8 Amperes.

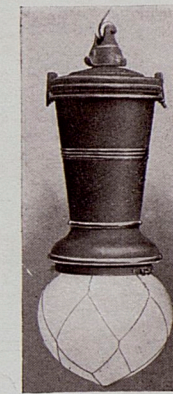


Fig. 8.  
"E" Type, 10-12 Hour.  
12 Amperes.

### WITHOUT SHUNT COILS.

Brilliant Illumination. Yellow or White Light.

### PRICES.

"C" or "E" Type, 10-12 hours complete with Line Resistance or Choking Coil .....	£5 15 0
"B" Type, 18-20 hour, complete with Line Resistance or Choking Coil.....	7 0 0

### NO BURNT-OUT SHUNT COILS.

### DIMENSIONS.

"C" Type, 24" length overall; 23 lbs. weight; Code Word, "Flemtenad."
"B" Type, 33" length overall; 31 lbs. Weight; Code Word, "Flembesad."
"E" Type, 27" length overall; 23 lbs. Weight; Code Word, "Flemarto."

CARBONS SUPPLIED FOR ALL TYPES AND MAKES OF LAMPS  
AT REASONABLE PRICES.



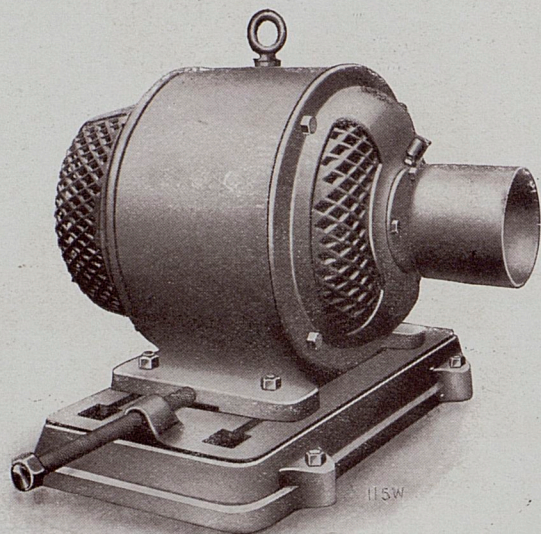


Fig. 9.

Motors, Transformers, Motor Generators, Cables, Resistances, Carbons.

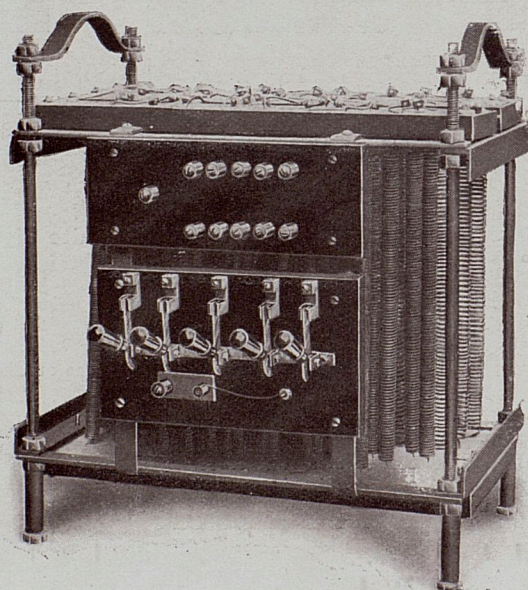


Fig. 10.

ALL KINDS OF ELECTRICAL MATERIAL.

COMPLETE OUTFITS.

SEND US YOUR ENQUIRIES.

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FOR USE WITH THE KELVIN SET.

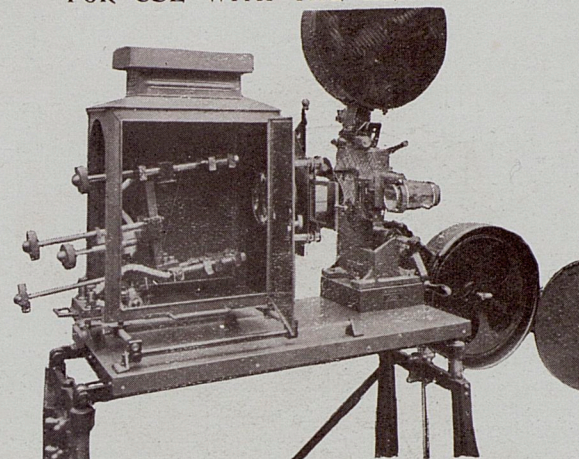


Fig. 11.

Lanterns and all Accessories.

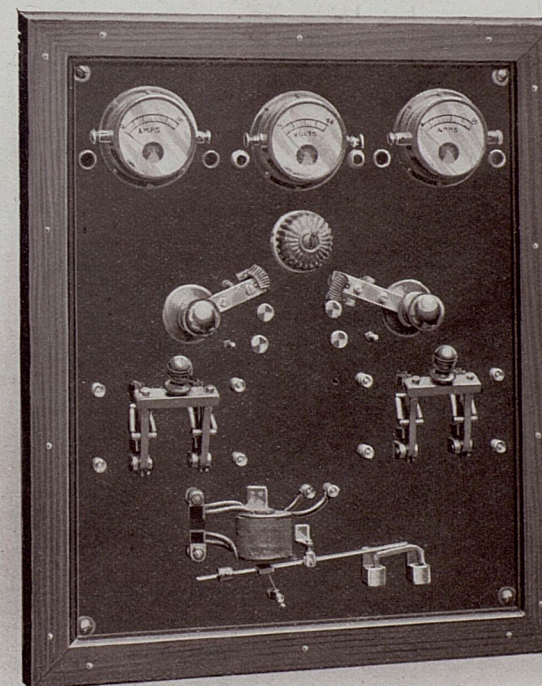


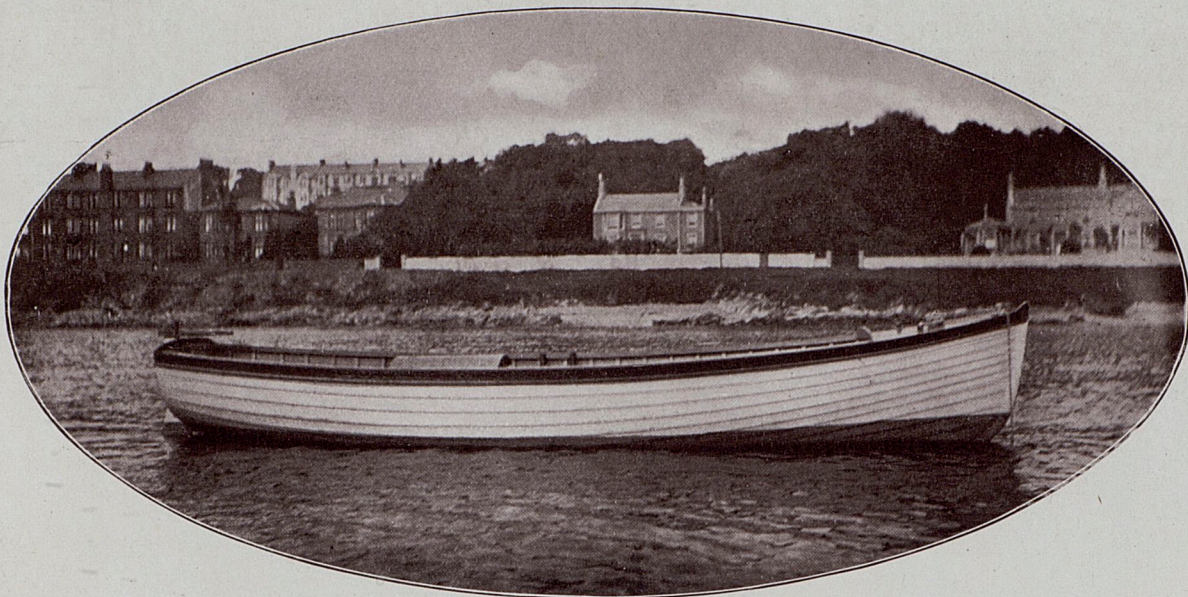
Fig. 12.

Switchboards,  
Metallic Filament Lamps, Carbon Filament Lamps, Switchgear.

COMPLETE EQUIPMENTS FOR EXPORT A SPECIALITY.

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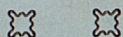


Quotations given for all classes of Motor Boats or Launches.



# Paraffin and Petrol Engines

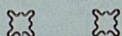
———— For all Purposes. ————



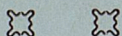
## Petrol and Paraffin-driven Complete Electric Lighting Plants

———— For Country Houses, &c. ————

Ask for this List.



## Motor Boats and Launches.



# FYFE, WILSON & CO.,

145 Bath Street, Glasgow, N.B.

Telephones—Nat., 568 Douglas.  
P.O., 2968 Central.

Telegrams—"POLYPHASE, GLASGOW."  
Code A.B.C., 5th Edition.