# 1939-1945

## THE BURDEN OF OTHER DAYS

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## AN ACCOUNT OF SOME WARTIME ACTIVITIES

ASSOCIATION OF ELECTRICAL MACHINERY TRADERS

# THE BURDEN OF OTHER DAYS

**MEMORIES are notoriously short, and with the passage of time one often forgets much of the "burden of other days." This account of some of the activities of Members of the Association of Electrical Machinery Traders during the 1939-1945 war is intended to place on record the achievements of a number of Electrical Engineering firms, many of them small, most of them little known to the public at large.**

**The recent period of hostilities between nations has frequently been described as "an Engineers' War." In many respects it could be truthfully and more particularly referred to as an "Electrical Engineers' War," for the application of electrical science played a vital, and, in many respects, an outstanding part in almost every phase of the struggle.**

**The firms included in Membership of the A.E.M.T. are principally concerned with Electrical Power Engineering, particularly the supply and servicing of Dynamo Electrical Machinery and its allied equipment. It is their job, in normal times, to keep the wheels turning in Factories and Industrial Establishments of all kinds which rely upon electrical energy for their source of driving power.**

**It will be readily appreciated that A.E.M.T. Members are equipped for, and are accustomed to deal with, emergencies to a considerable extent. It was not surprising, therefore, to find that Government Departments very quickly sought the services of A.E.M.T. Members when war broke out, and, indeed, in many cases during the period of hasty rearmament immediately preceding the outbreak of war.**

**These demands were, of course, enthusiastically met, and grew in extent as the war progressed to its climax.**

**The emergency equipment of munition factories, particularly with Machine Tools from abroad, presented many demands for Electric Motor drives which could not he met in the required time by the home manufacturers, who were already working to capacity, These drives were provided, to a considerable extent, by A.E.M.T. Members either direct from their stocks of Electrical Plant, or by the conversion-often involving redesign of such Plant as was available.**

**This class of service was required all through the war and was very often necessary before certain high production value Machine Tools of U.S.A. manufacture could be put into commission in this country. However, the real test for our section of the Electrical Industry arrived when the air raids started on London in the latter part of 1940.**

**One Saturday evening in the early autumn of that year, the skies over East and South-East London became covered with clouds of reddened smoke from huge fires which the first heavy raid had started.**

**As the night fell on that memorable day, the raids were renewed and extended in area so that viewed from a high point in Central London, it seemed that the damage must well be beyond repair,**

**From that time onwards, through all the long, drawn out phases of the air raids on London, and, in turn, on the Provincial Production Centres, there were continual calls on the Repair Shops of A.E.M.T. Members to make good whenever possible and in the shortest possible time, the damage by blast, fire and flood to Electrical Machinery.**

**There were many instances where a machine had been so hot that its brass parts had actually melted, only the iron and steel carcass remaining- even this portion having suffered distortion but it proved possible to rebuild the machine and put it back into service in a matter of a few weeks.**

**There were cases of irreplaceable fire damaged motors where it was necessary to remove from the casing even the steel laminated core and individually treat each sheet steel lamination.**

**A typical example of a rush repair job was a 60 H.P. low speed 2-phase slipring motor driving an air compressor which formed the key unit in an extremely important London factory. A spare compressor was available, but not a motor, so the original machine was completely rewound, new white metal bearings and gun metal sliprings made. This work was completed in the remarkably short time of six working days and nights.**

**Such a job could only be executed by an Establishment with personnel experience in dealing with breakdown work and provided with the right equipment for doing the job, and with extensive stocks of materials on which to draw. Amongst A.E.M.T. Members are many such Establishments throughout Britain.**

**As the war dragged on year after year, a steadily increasing number of breakdowns occurred to Electrical Plant of obsolete design, or of foreign origin, for which spares were no longer available. In almost every instance it was found possible to manufacture the particular spares which were needed to effect a repair.**

**This class of work calls for considerable manufacturing facilities, and these were frequently called upon to produce experimental and prototype equipment for the Fighting Services. In the case of many A.E.M.T. Members, their plant was such that they were**

**able to undertake considerable production programmes for both direct Government Contracts and for Sub-Contracts.**

**There were many instances where the actual design of machines had also to be under taken. This was possible by virtue of the fact that in their ordinary course of business several of the larger A.E.M.T. Members employ a highly qualified Technical Staff who frequently find it necessary to design Electrical Machines and parts, especially motor and transformer windings.**

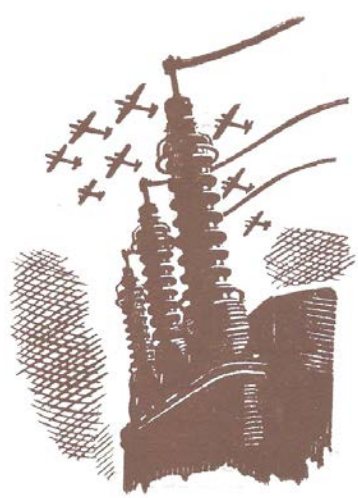
**The foregoing by no means exhausts the story but should serve to show that the A.E.M.T, can be proud of the records of its Members in war no less than in peace, which, in turn, has brought many problems.**

**The latter section of this Brochure has been compiled from particulars supplied by several A.E.M.T. Members of their specific achievements; and adds point to this introductory section, which must of necessity be written in general terms.**

**The story could never have been written but for the characteristics of initiative, dogged determination, and skilled craftsmanship, which are inherent in the British race.**

**W.E.L.**

**LONDON, SEPTEMBER, 1946.**



# SOME A.E.M.T. MEMBERS SPEAK FOR THEMSELVES

## Allen Electric, London.

**For the Ministry of Supply we undertook the repair and rewinding of Rotary Converters and Searchlight Generators. Also the repair and overhaul of Telecommunication Equipment.**

**This work, of course, was in addition to our normal activities.**

## Berry Hill Plant Division, Stoke-on-Trent.

**Our work is closely connected with Collieries and following the closing down of the New Haden Colliery in 1943, a considerable amount of plant became available.**

**We succeeded in bringing all this plant into service at other Collieries within about six months, much of it for emergency requirements.**

**A typical instance was an electrically driven belt conveyor unit which was required for use underground to assist in fighting a pit fire. We received a call for this equipment at nine o'clock one morning, and although much of the material had to be built up, and the electrical drive and gear box overhauled, the unit was ready for collection at 5.0 p.m. on the same day.**

## Burdette & Co. Ltd., London.

**A large amount of work was undertaken for various Ministries.**

**For the M.A.P. we wound, built and tested, complete from materials supplied, large numbers of 9 kVA alternators for Radar Predictor equipment.**

**For the Admiralty, winding construction and testing of special type motor generator equipments for wireless transmission sets.**

**For the Ministry of Supply, the dismantling of large numbers of motor generator equipments and treating the windings with special insulation for use in the tropics.**

**The air raids called for many emergency repair and rewinding jobs for the Ministry of Works.**

**For a Borough Council Sub-Station, which suffered extensive damage by enemy action, we stripped down, repaired and rebuilt approximately 7,000 kVA of generating plant and auxiliary equipment.**

**Much rewinding and repair work to Power Station generators was undertaken for a number of Electricity Supply Authorities.**

**On the Mechanical Engineering side we undertook the complete manufacture and assembly of various aircraft components, also tripod mountings for Lewis guns.**

## City Electrical Co., London.

**A considerable amount of manufacturing work was undertaken involving 450 different types of components, which were used for eighty different types of assembly. Twelve thousand complete assemblies were produced.**

**An interesting example of the equipment produced was the main distribution connection box for 5.25" gun mountings, each unit comprising over 630 separate parts.**

**For the Admiralty Air Stations, portable type single and multiple way magneto test benches were designed and manufactured, arranged to accommodate and test every type of British and American aircraft magneto and distributor at speeds between 50 and 8,000 R.P.M. Much of the equipment was specially treated for use in the tropics.**

**Other test benches were specially designed for the requirements of the M.A.P. and leading Aircraft Manufacturing Companies.**

**A considerable amount of special work for the Ministry of Supply (Machine Tool Control) was carried out, including the complete rewinding of several hundreds of American motors, etc. to make the equipment suitable for use on British Electricity Supplies.**

**Notwithstanding the heavy calls which were made on our services, ninety-five members of our Staff served in the Armed Forces.**

## Constable, Ohlson & Broad, London.

**Apart from our regular work of Electrical Machinery Repairing, we were able to undertake the winding of new armatures for electric vehicles at the rate of 100 per week.**

**On the mechanical side, we manufactured much special plant for the equipment of Factories, one of the largest jobs being an Infra Red Drying Oven, 36 ft. long, equipped with a power driven travelling rack.**

## Dynamo & Motor Repairs Ltd., Wembley.

**In addition to our normal activities we were able to undertake considerable manufacturing work for the Services during the War. Those worthy of mention are:-**

**1,500 Motor Alternator Sets for the Admiralty for Asdic operation. For this job the "Mock-Up" was tested and accepted within ten days of receipt by us of the original enquiry. Fourteen days later the production prototype was designed, manufactured and accepted.**

**1,000 Spare Armatures were manufactured by us for the Ministry of Aircraft Production for use with Aircraft Generators.**

**For the Ministry of Supply we supplied for Russia a 150 kW Motor Generator Set for vital Dock services at Archangel. This was assembled in four weeks and made ready for shipment by convoy during the critical early period of the War.**

**In addition we were able to provide a large number of Pump and other Motors for the "Whale Project" - a part of the "Mulberry" - and completed the work well within the time allowances.**

**For the Admiralty we assembled many Motor Generator Sets up to 200 kW capacity which were required for various purposes at Research, Shore and Dock Establishments.**

**One of our most interesting jobs was the overhaul of a 1,000 kW Turbine Rotor removed by the Navy from Spitzbergen to deprive the enemy of electricity supply to Collieries.**

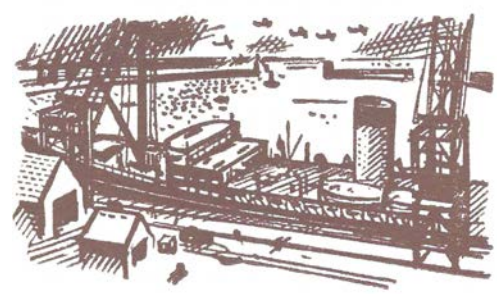
**For A.R.P. many standby Generating Plants were installed or prepared by us for vital National and Industrial Establishments all over the Country.**

**We had our share of incidents resulting from enemy action, our Works being hit twice by incendiaries and later seriously blasted by a VI, but our production was maintained without interruption.**

## Electric Machinery Co. (MCR.) Ltd., Manchester.

**During the war we were largely engaged in building up Steam Driven Generating Sets and Motor Generator Sets for use on board Merchant Ships to provide current for de-gaussing equipment, frequently under conditions of urgency.**

**A particular incident which we can recall with pride was the supply of a 50 kW Steam Driven D.C. Set for the Admiralty, to be installed in a vessel lying at a Scottish Port. We were able to do the necessary reconditioning work in a week, and the machine was despatched by passenger train to Scotland.**



## Electrical Power Maintenance Service Ltd., Birmingham.

**At the commencement of the war we were called upon to carry out a large amount of conversion work on electrical machines, due to large Arms and Aircraft Factories in our part of the country moving considerable portions of their plant to shadow factories. This called for day and night work for close on twelve months. Nearly all the electric motors concerned had to be rewound to suit new electricity supplies.**

**At a later period in the war we were able to give some assistance to the Admiralty by way of supplying Engine Driven Generating Sets.**

**Later still we undertook the winding of Gyro Stators for use in Naval Gun Turrets. This proved a rather troublesome job, but was made a success after certain modifications, which we were able to suggest, had been adopted.**

**Another job which we undertook, was the winding on a production basis, of large numbers of armatures and field frames for the Manufacturers of Portable Electric Tools In this case it proved necessary for us to design and build ourselves the necessary armature winding machines.**

## The Electroplant Co., Wembley.

*(Successors of J. Gerber & Co. Ltd.)*

**The very nature of our business, which includes the building up of Engine-Driven Generator Sets, Motor Generators and Special Electrical Equipment, resulted in our being called upon in many emergencies where power supply had been interrupted, both at home and abroad.**

**Large numbers of machines were supplied for A.R.P. purposes, including one for the use of H.M. The King.**

**It is interesting to recall that during the "Blitz" periods, members of our Staff frequently knew the following morning where. "they" had been during the night by the frantic telephone calls for assistance which were received in an attempt to get things going again in the affected area.**

**Our main war-time Contracts were for Generating Sets for the Admiralty. One Department was continuously engaged on this work during almost the whole of the war.**

**Practically all Ministries and Service Departments, however, at one time or another made use of our facilities. The orders ranging from 10,000 R.P.M. D.C. motors with "Ward Leonard" control for dynamometer drives, hi-cycle alternators, equipment with special characteristics for Industrial X-ray work, down to small Converters for operating American "Juke Boxes."**

**The fact that a very large percentage of this equipment was made up or re-designed from available used material at very short notice is an indication of the useful part played by competent Electrical Machinery Traders in time of stress and shortages.**

## Fyfe, Wilson & Co. Ltd., Bishop's Stortford.

**A large amount of work of considerable variety was undertaken for the Admiralty, much of it being on the secret list.**

**As early as October, 1939, a prototype petrol-driven de-gaussing generating set was produced. Subsequently numbers of these and oil driven generating sets were produced for de-gaussing radar, wireless, etc.**

**Many sizes of armatures up to 18" core diameter were manufactured throughout on a production basis, also quantities of a range of field coils, up to single units of 100 lbs. each.**

**The problem of dealing with the magnetic mine called for experimental work on a considerable scale.**

**Many motors of 15 H.P. and 20 H.P. which were ex-Landing Craft and had been sub merged in sea water were rewound and completely reconditioned on a production basis.**

## Hirst Electrical Co., London.

**One of our manufacturing lines involved the production of four thousand Electric Spot-Welding Machines of a special type which were used in the Valve and Lamp Industries, and also by Aircraft Manufacturers for light work.**

**A considerable amount of repair and rewinding work was undertaken. One of the most interesting jobs was the rewinding of a number of 15 kW 4 commutator 30,000 volt D.C. Generators. Needless to say this called for a very high standard of workmanship.**

## R. F. S. Dowell & Co. Ltd., Stroud.

**Soon after the declaration of war we were approached by the Admiralty and we made arrangements to produce a wide range of equipment, much of which was on the secret list. This included mobile engine and motor driven generating sets for servicing aircraft on Carriers and Shore Establishments.**

**Other products included Battery Testing Sets and a wide range of switchboards, including a fuse testing unit capable of operating through a range of 1 to 6,000 amps.**

**The development of submarine warfare resulted in an influx of urgent Admiralty Electrical Machinery Repair work. It is interesting to note that a number of the machines on which we worked were used for secret equipment employed for the destruction of Acoustic Mines.**

**The Installation Department was engaged in Contracts for Admiralty, War Department and Air Ministry, and many notable schemes were carried out.**

## The Industrial Electrical Co. Ltd. London

**Many thousands of Electric Motors and Generators employed in Factories throughout England were repaired and rewound.**

**Upwards of 12,000 motors and generators were supplied, several hundred being re designed and rebuilt for special purpose requirements, mostly at very short notice, to meet emergencies. Some of the most interesting being:-**

**Motor Generator Sets for special "D" Day vessels and other Naval purposes.**

**Motors required so urgently that they were flown to Russia and other overseas destinations.**

**Motors with special attachments for dealing with unexploded bombs.**

**Conversion Plant to facilitate the equipment of the U.S. Army H.Q. in London.**

**Considerable number of non-standard motors for the servicing of Flying Fortresses and other U.S. Army aircraft. These were provided in under three weeks although, at the time, the district in London where our Works are situated suffered very considerably from air raids.**

**Production of numbers of large and small "Pilot" motors for providing artificial 3-phase current to enable standard 3-phase equipment to be installed in Factories served from single phase mains.**

**No less than ten separate Ministries called on our services during the war.**

**Our efforts at training Women Armature Winders, and the degree of skill attained by these workers, were taken note of by the Ministry of Labour and an illustrated article on the subject was published in the " Production and Engineering Bulletin," which was a journal sponsored by the Ministries of Production and Labour, and circulated to every Industrial Establishment in the Country to stimulate and encourage Engineering Production.**

## Magstarlite Ltd., London.

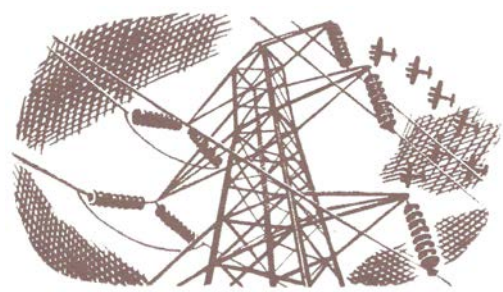
**In the early part of the war we specialised in the winding of small armatures and field coils, as used on portable tools and similar equipment. On one Contract alone we reached a peak of three hundred armatures a week. This was, of course, in addition to our normal motor repair work.**

**Indirectly we have to thank the Germans for showing us how to reach such an output for when our Works suffered severe damage in 1940 through bombing, it was**

**unusable for several months, and during this period we started a scheme for the winding of small armatures by home workers, all of whom we had to train. This developed until twenty-four home workers were employed.**

**In common with most Electrical Repair Shops, we had many interesting jobs, one in particular which we like to recall was for Her Majesty's Royal Netherlands Navy.**

**Our Works' roof had to be replaced on two occasions and from our small Staff every eligible man was called to the Forces.**



## Marryat & Place Ltd., London.

**Many important industrial installations were carried out, including the complete electrical equipment of a very large Aircraft Repair Centre in South Wales, and later in the war, complete installations for the A.I.D. Research Laboratories near London.**

**A considerable quantity of Busbar Distribution Equipment was manufactured for Ordnance, Aircraft and Engineering Factories, throughout the country.**

**A very interesting job, regarded as urgently necessary at the onset of the London blitz, was the removal of about half the plant installed at the Royal Mint and its re-installation elsewhere. This work involved the handling of some 600 tons of plant.**

**Re-conditioned plant was adapted for the complete electrification of a Board Mill, which previously had been driven by water power.**

**Throughout the war the Maintenance Department had in its charge, nine thousand electric motors, as well as seventeen hundred lifts and cranes, installed in factory and other premises in London and elsewhere in the South of England and the Midlands.**

## Max Electric Co. Ltd., Croydon.

**The Ministry of Supply included our name in their panel of firms who could undertake urgent motor rewinding and repairing work for Factories in our area which suffered damage by enemy action.**

**Early in the war we were called in to co-operate with a well-known Manufacturer in the design and production of high frequency motors to be used in tachometers for aero engine speed indication. Many thousands of these motor's, which were of the synchronous type and standardised by the R.A.F. were wound by us.**

**We held a contract with the Air Ministry for the repair and testing of numerous high frequency alternators used on aircraft. For the Admiralty we rewound and overhauled a large number of heavy pattern electric starting motors for Landing Craft.**

**In all we manufactured close on a thousand heavy duty arc welding machines, which were used all over the country by firms engaged in building armoured vehicles, tanks, etc.**

## Mead Electric Co. Ltd., London.

**We supplied over six thousand motors, of various types, mostly to the British and Allied Governments and Factories engaged on War Contracts.**

**Before the U.S.A. Air Force left this country we received a letter thanking us for the assistance which we were able to give them on D-Day.**

**An urgent requirement for some special motors as replacements was received by us in a priority message at 11.0 a.m. on the memorable date of June 5th, 1944, and we are proud of the fact that we were able to supply the motors from our stock, and these were immediately despatched by road to Southampton. Later in the day they were taken to Normandy by air and were put into commission before 6.0 p.m. on the same day they had left our Stores.**

## The Midland Dynamo Co. Ltd., Leicester.

**Many machines were supplied for important jobs and much repair work of an urgent nature was undertaken. Possibly our most useful contribution to the war effort was the manufacture and supply of our "Quickway" Armature Coil Winding Machines. These were installed on Fleet Repair Ships, in His Majesty's Dockyards, and in several Electrical Manufacturers' Works and Repair Shops throughout the country.**

**Quite recently we were informed by the Representative of an A.E.M.T. Member' Firm that one of their employees reported that he had used one of our machines in a Navel Establishment at Singapore.**

## The Midland Electric Installation Co. Ltd., Wolverhampton.

**It is difficult to single out, for particular reference, incidents from the great number of large and small electrical machines which we worked on during the war. However, the following examples are typical of the type of work on which we were engaged.**

**A large Steel Works had a considerable amount of Electrical Equipment of foreign manufacture, including a number of 600 H.P. high torque, Squirrel Cage motors. Owing to the arduous conditions under which these machines operated it was desired to have a number of spare rotors. It was, of course, impossible to obtain spares from the Manufacturers, so we undertook the design and complete manufacture of the required equipment. We were gratified to learn that the motors which we manufactured gave even better service than the originals.**

**During the early part of the war, when the steel supply position was critical, a particular Steel Works was operating night and day, including holidays. Early one Christmas morning they had a complete armature burnt out of a 90 H.P. slow speed, Slipring motor. The Christmas lunch of some of our Staff was rudely interrupted. The motor was collected and the necessary rewinding work commenced a little later in the day. It was stripped, all conductors re-insulated, and the machine was rewound and put back into service in just under a week.**

**During one winter a Colliery struck an exceptional amount of water, with the result that all their pumps were working at full pressure, and even then only just holding down the water level. A sudden inrush of water from a new source flooded a 160 H.P. Pump Motor and caused a dead earth. This machine was rushed to our Works, meantime the flood level rose steadily in the pit, isolating some of the workings and endangering several more Pump Motors. If these Pump Motors had become affected, it is probable that the whole Colliery would have had to close down for many weeks.**

**We were able to complete repairs to the Pump Motor and get it back into service in just under twenty-four hours, by which time the water level had risen to within a few inches of the remaining Pump Motors. When the repaired Pump Motor was put into service, the water level was reduced, and we understand the situation was saved literally by a matter of minutes.**

## A. Morgan & Co., London.

**During the war we concentrated on the Manufacture of Electric Hoist Blocks, also Hand Power and Electric Overhead Travelling Cranes.**

**This equipment was supplied for use in practically all centres of war production.**

**Several prototypes of special lifting mechanism were developed.**

## John E. Schofield (1946) Ltd., Dewsbury.

**Much work was carried out for a large group of Collieries in the Midlands such as the installation at one Pit of a 1,500 kW Turbo Generating Plant with all auxiliary equipment. Also a 1,000 kW plant at another Pit. This plant had to he purchased secondhand owing to the emergency. The necessary reconditioning work was done by us.**

**We provided and maintained emergency electrical equipment at large Hospitals in the Midlands; and a good many Oil Engines, Pumping Plants and Switchgear were supplied to the Admiralty Salvage Section.**

**On the mechanical side of our business we machined a large quantity of Steel Sprockets for Tanks and Bren Gun Carriers. Also Component Parts for Aero Engine Test Beds.**

## Service Electric Co. Ltd., Alperton.

**Most of our war time activity was in the manufacturing field.**

**We made a lot of Radar Equipment for M.A.P. and M.O.S., including some very complicated Slipring Units, having from twenty to thirty Sliprings each. These orders totalled close on £200,000.**

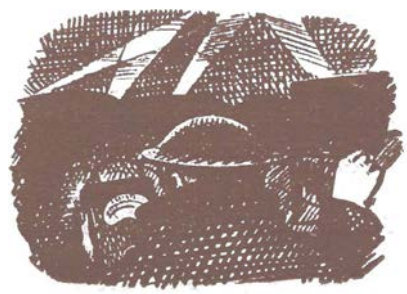
**We also manufactured about £100,000 worth of Electric Sirens for the Army, Air Force and A.R.P. Organisations.**

## Smith & Co., Carlisle.

**During the early part of the war it was a case of "All Hands on Deck" to install heavy plant in connection with Shell Forging and Finishing for 25 pounder and 6 pounder shells.**

**We installed all the Electrical Equipment for four of the largest high grade steel making furnaces in the country.**

**During the war much rewinding and repair work, including jobs up to 1,000 H.P. 3,000 volts, was carried out for Collieries, Iron Ore Mines, Lead Mines and Power Stations throughout practically the whole of Cumberland and Westmorland. It is the proud record of the Founder of the Firm that he was the first man to start an Armature Winding Repair Shop in the Border Country.**



## J. A. Somerset & Co., Manchester.

**With us the war largely meant "carrying on" with our normal business but at a greater tempo,**

**There was, however, one unusual activity in which we were engaged though it had no relation to Electrical Machinery. This was the manufacture of quantities of parts for the construction of Dummy Tanks, Guns, Lorries and Landing Craft.**

## Stewart Thomson & Sons (Liverpool) Ltd., Liverpool.

**The advent of the magnetic mine resulted in a large amount of work in connection with the supply and installation of steam driven generating sets for the de-gaussing of merchant vessels. Many of the necessary de-gaussing coils were manufactured in our Works.**

**The submarine menance necessitated the equipment of Destroyer and Mine-sweeper bases, for which several motor generator sets were built up and supplied by us.**

**We had the privilege of supplying the Diesel Alternating Set which was installed in the Headquarters of the Admiralty Western Command.**

**A very interesting job of electrical work was carried out at short notice on the "Franconia" in preparation for the visit of Mr. Churchill to the Yalta Conference, and we treasure a complimentary letter we received from the Flag Officer in Charge, Liverpool, on the subject of this work.**

## W. D. Sugden & Co. Ltd., Barking.

**Although we were heavily engaged throughout the war supplying Motors and Generators for essential purposes, as well as doing repairs and rewinds to a wide range of machines; we were able to undertake the electrical equipment with intricate wiring installation and the testing of what was at the time, a secret Torpedo Attack Teaching Apparatus, used for training Aircraft Crews in the use of torpedo warfare. This work was carried out for the Ministry of Aircraft Production.**

**When this Contract was finished, we carried out similar work for a new type of Night Vision Trainer, which was used to train the Air Crews of Night Flying Aircraft for offensive action against enemy aircraft.**

**Needless to say, these activities of ours were not carried out without much difficulty for our Works lies in a part of London which suffered heavily from enemy action. In fact, during the VI attack, more rockets fell in our part of London than anywhere else.**

## Universal Electrical Co., London.

**For some time prior to the outbreak of war, we had specialised in the handling of Rotary Converters, and we are proud to have received during the war, several letters of appreciation of our services from various Government Departments and other customers.**

**In addition to the supply of machines to several British Government Departments, we numbered amongst our customers five Allied Governments and two Broadcasting Systems.**

## Thos. W. Ward Ltd., Sheffield.

**Our war time effort was so varied and covered such a wide field involving calls on our Electrical Department, that it is difficult to summarise our activities in the field of Electrical Machinery trading.**

**However, the job which perhaps made the most exceptional call on our large resources was in connection with the emergency dispersal of the country's Aircraft Factories, This involved the transference and installation of existing and additional Electrical Power Plant of all types comprising Motors, Generators, Switch gear, Transformers, etc. at extremely short notice. In many cases the work was carried out under hazardous conditions.**

**The whole scheme at its outset was described to our Chairman, Mr. Ashley S. Ward and our Engineering Director, Mr. Harold Vernon by Lord Beaverbrook as being "the**

**most gigantic job of its kind in the world's history." So, as events proved, it became. In the phrase of Sir Charles Bruce Gardiner it was "a task of front-line importance." We were pleased when we received a letter of appreciation from the Minister of Aircraft Production on the completion of the job.**

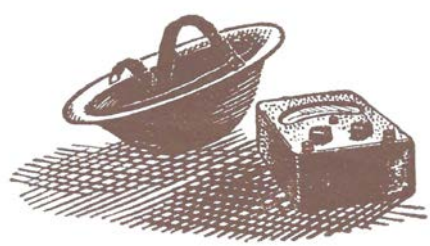
**Our Company was one of the group leaders appointed by the Ministry of Supply to re-organise all services necessary to deal with reconditioning Machine Tools and Industrial Plant damaged by enemy action.**

## R. F. Winder Ltd., Leeds.

**Of the large amount of Electrical Plant which we provided for many war time purposes perhaps the most interesting was the following.**

**Shortly after D-Day we were asked to provide a conversion equipment to enable a 500 volt D.C. dock installation in a captured Port to be operated from either 400 or 6,600 volt 3-phase supply. We were able to provide a 200 kW Rotary Converter and a suitable Transformer from our stock.**

**The equipment was reconditioned, tested, and packed for emergency shipment at very short notice. The packing crates were mounted on skids and were taken over by L.C.T., from which it was hauled up on to a landing beach, and (we were informed) was immediately put into service.**



*“Enough, if something from our hands have power*

*To live and act, and serve the future hour.”*

WORDSWORTH.

# *LIST OF MEMBERS*

***of the Association of Electrical Machinery Traders***

***Chairman: W. E. Lawton, Esq.***

***Vice-Chairman: T. A. Atkinson, Esq.***

***Hon. Treasurer: H.W. Cole, Esq.***

| | |
|---|---|
| **A. A. Electrical Co. Ltd** | **90 Matlock Crescent, Cheam, Surrey.** |
| **Allen Electric.** | **2 Elmira Street, Lewisham, London, S.E.13.** |
| **Berry Hill Colleries Ltd. (Plant Division).** | **New Haden Colleries, Cheadle, Staffs.** |
| **Bignell & New Ltd.** | **1 Wellington Road, Oxbridge.** |
| **S. C. Bilsby.** | **Crosswells Road, Langley Green, Nr. Birmingham** |
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| **British Electrical Repairs Ltd.** | **8/10 Long Millgate, Manchester, 3.** |
| **T. Brook & Sons Ltd.** | **Chapel Hill, Huddersfield.** |
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| **City Electrical Co. Clarke** | **Emerald Steet, London, W.C.l.** |
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| **The "Conalt" Electrical Co.** | **161 Barnsbury Road, London, N.l.** |
| **Constable Ohlson & Broad** | **16 Surrey Lane, Battersea, London, S.W.11.** |
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| **Dow & Nicholson Ltd.** | **180 Hardgate, Aberdeen, Scotland.** |
| **Dynamo & Motor Repairs Ltd.** | **North End Road, Wembley Park, Wembley, Middlesex.** |
| **Electrical Machinery Co. (Manchester) Ltd.** | **New Union Works, Ancoats, Manchester.** |
| **Electrical Installations Ltd.** | **65 Vincent Square, Westminster. London, S.W.l.** |
| **The Electrical Plant & Repair Co. Ltd.** | **15/16 Clerkenwell Green, London, E.C.l.** |
| **Electrical Power Maintenanee Service Ltd.** | **Lower Essex Street, Birmingham, 5.** |
| **Electricals Ltd.** | **14 Claremont Place, Newcastle upon Tyne, 2.** |
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| **C. J, Ferguson & Sons Ltd.** | **54 Chiswell Street, London, E.C.l.** |
| **Wilson Ford Ltd.** | **Station Works, Bishops Stortford, Herts.** |
| **James Grant & Co.** | **480 Pollokshaws Road, Glasgow, S.l.** |
| **Great West Electric & Winding Co. Ltd.** | **43a High Street, Brentford, Middlesex.** |
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| **S. B. Hopkins & Co. Ltd.** | **259 Holloway Road, London, N.7.** |
| **R. F. S. Howell & Co. Ltd.** | **Nelson Works, Stoud, Glos.** |
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| **The Midland Dynamo Co. Ltd.** | **Belgrave Gate, Leicester.** |
| **Midland Electric Installation Co. Ltd.** | **Cyprus Works, Upper Villier Street, Wolverhampton.** |
| **Milo Engineering Works.** | **Milo Road, East Dulwich, London, S.E.22.** |
| **Albert Morgan & Co.** | **50 Wilkin Street, London, N.W.5.** |
| **Newman Industries Ltd.** | **32 Victoria Street, Westminster, London, S.W.l.** |
| **Oldfield Engineering Co. Ltd.** | **96, East Ordsall Lane, Salford, 5.** |
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| **Phillips & Sons Electrical Ltd.** | **40 Waterford Road, Walham Green, London, S.W.6.** |
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| **John E. Schofield (1946) Ltd.** | **Netherfield Works, Ravensthorpe, Dewsbury.** |
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| **R. F. Winder Ltd.** | **Belgrave Electrical WQrks, Cross Belgrave Street, Leeds, 2.** |
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