

THE ELECTRICIAN

Vol. CXXXV. No. 3505.

Friday, August 3, 1945.

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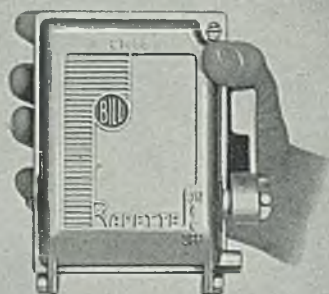
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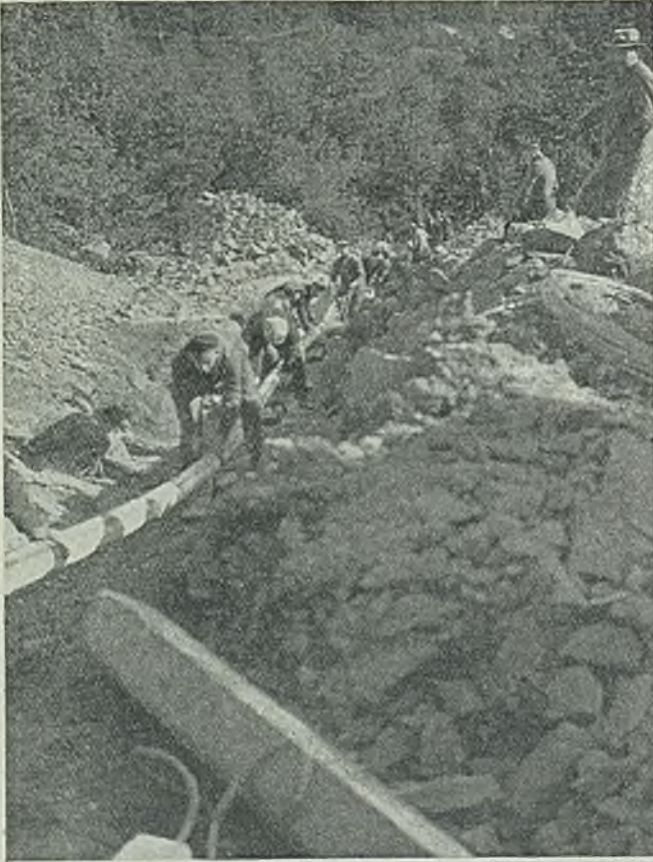
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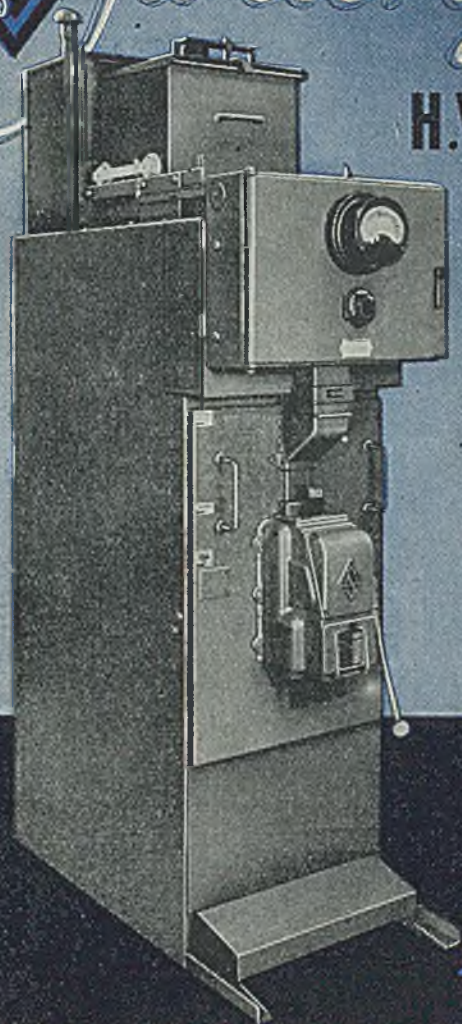
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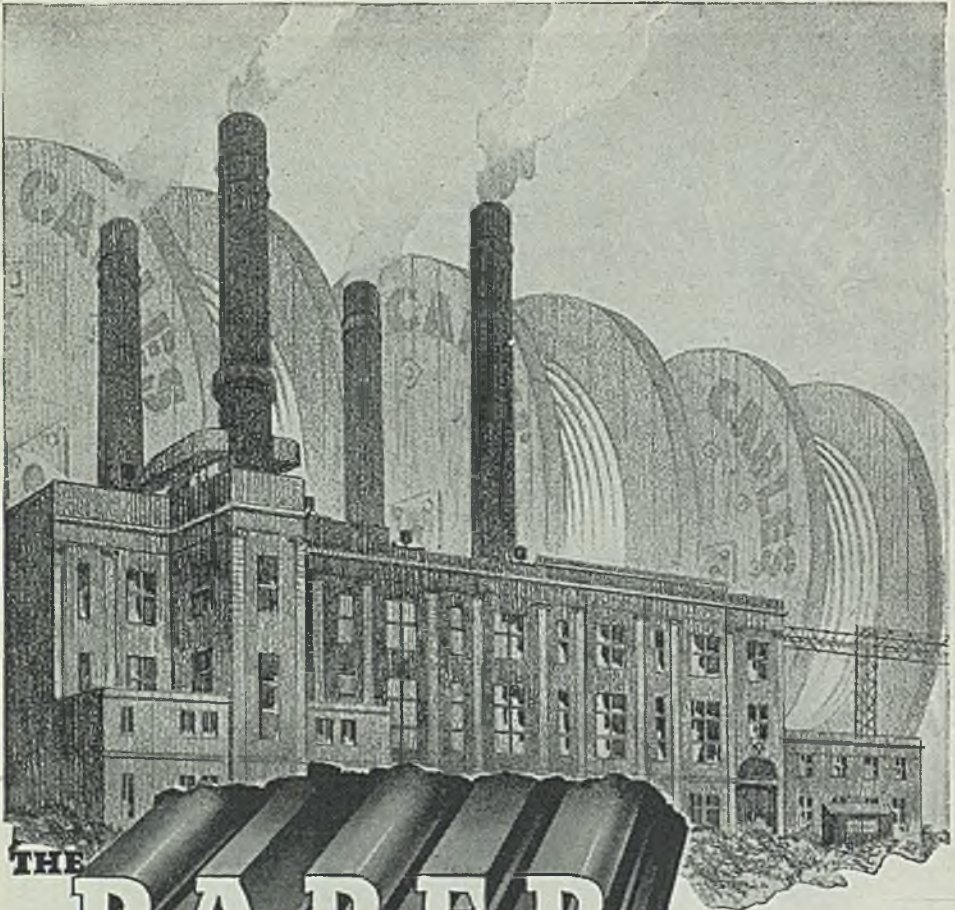
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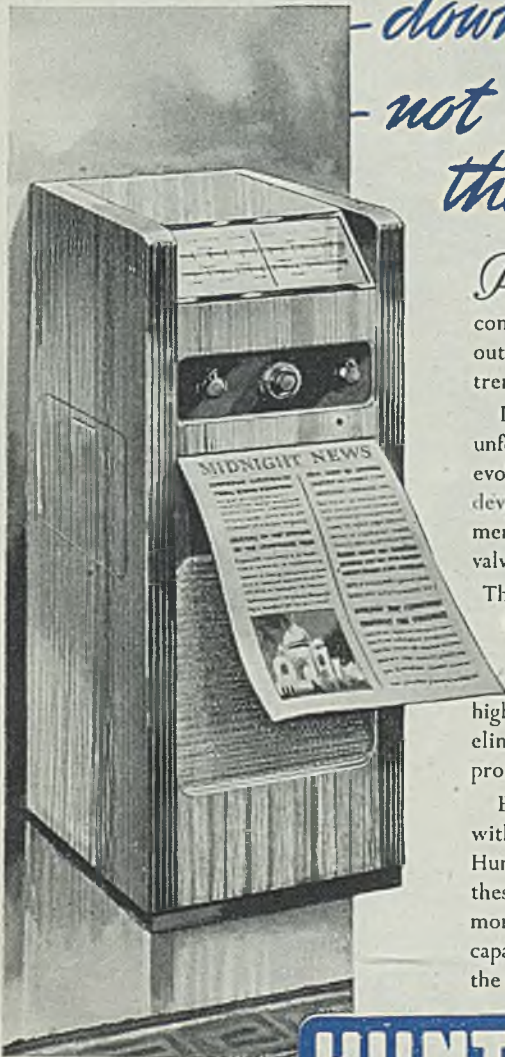
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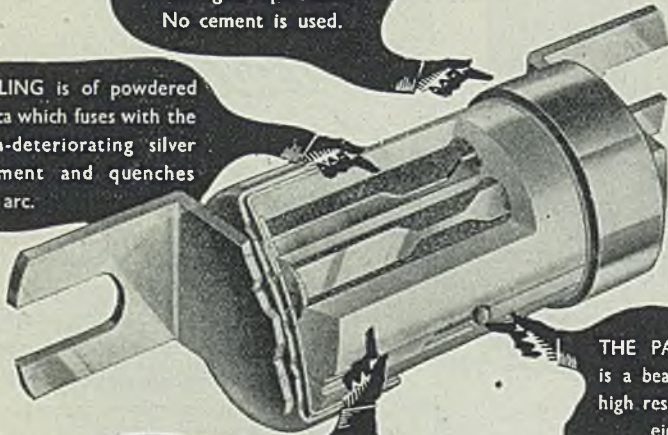
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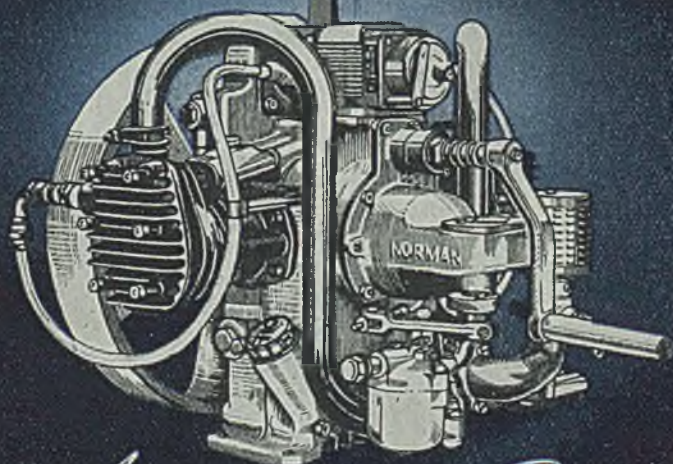
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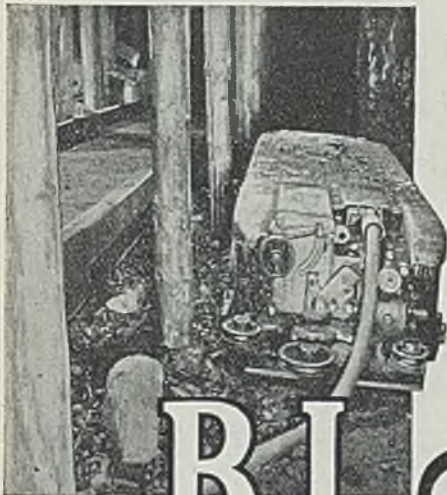
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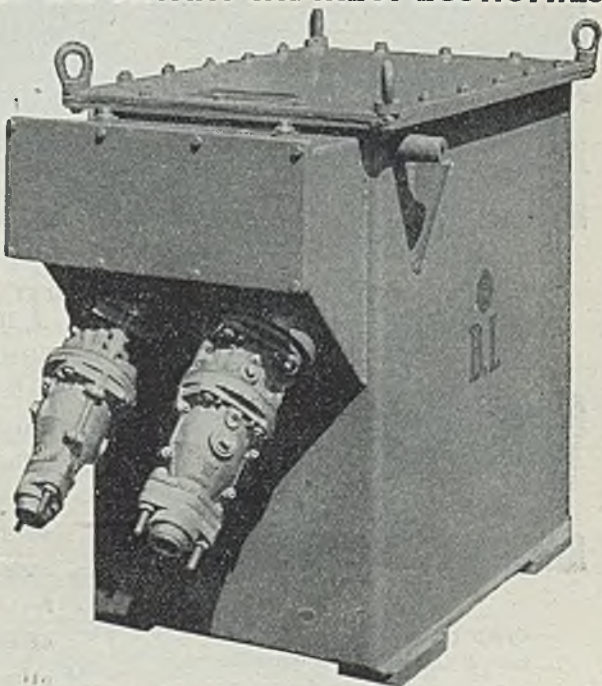
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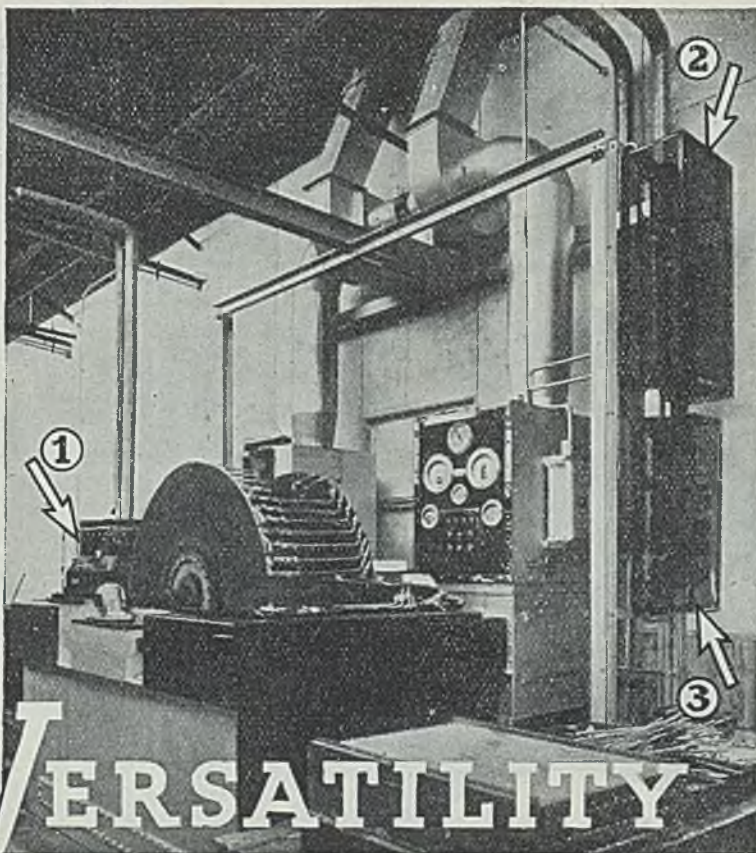
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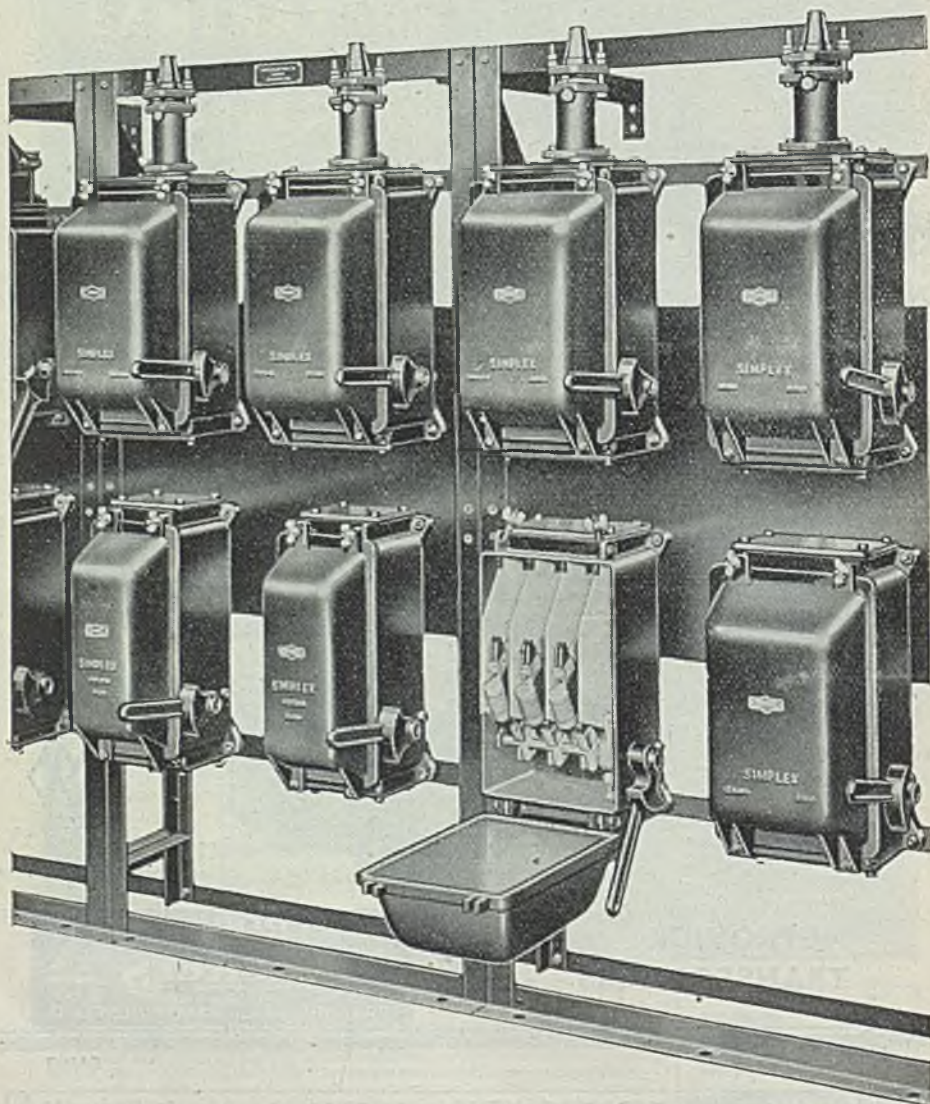
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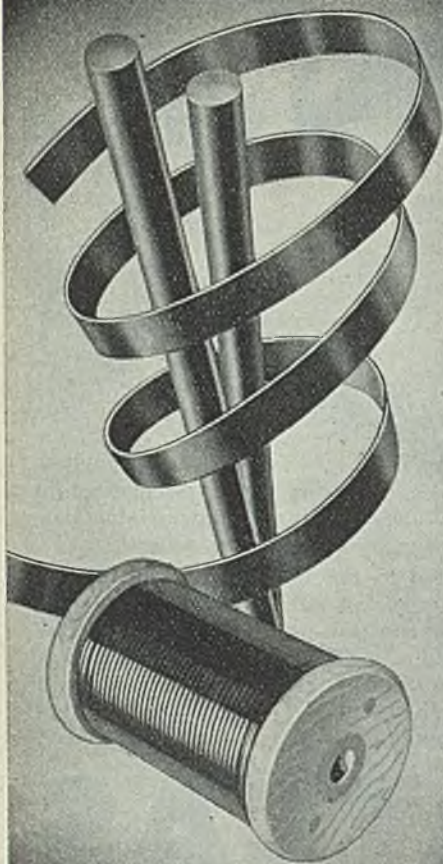
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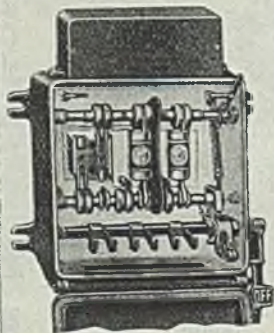
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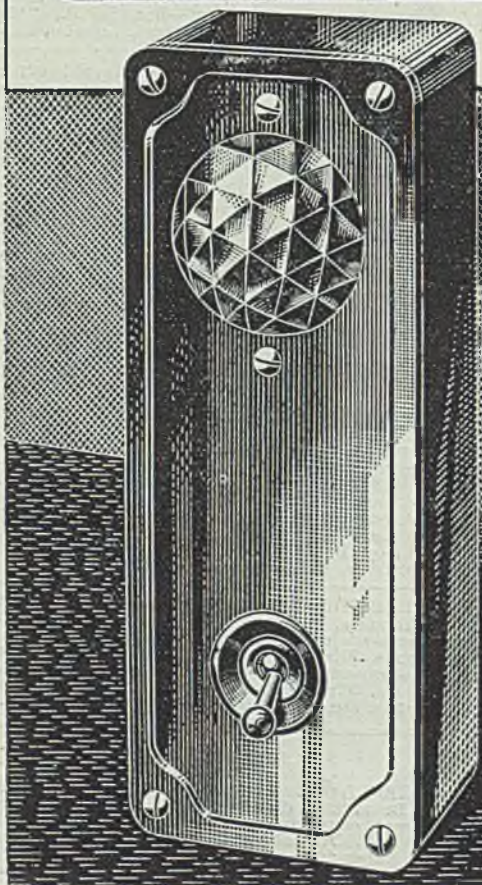
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ing in civilian life, millions from the Services; the making good of the unprecedented shortage of houses; and the necessity of restoring our export trade. That is not, however, the whole story, but it will suffice to support the suggestion that the new Government will in the months ahead have its hands sufficiently full with the urgent and vital necessities of the times, without attempting to put into effect any of the risky and untried schemes that were advocated by some in the torrent of the pre-election speeches. To what extent that is recognised by those now charged with our destiny, time alone will show.

What Now?

FOR the first time in this country a Labour Government is in power with a clear majority. Students of politics are busy attempting to find causes for the avalanche which, in less than three months from the celebration of Victory in Europe, has swept from office the commanding figure whose national leadership all have been glad, confidently to follow through the grimmest period of our history. Most people, however, are thinking rather of possible effects than of causes. The nation has spoken with a decisive voice—so decisive, in fact, that the new Government can formulate its plans without any of the restraints or inhibitions that the lack of a clear majority would naturally impose—and no one can be more conscious of the gigantic tasks that face the new administration than Mr. ATTLEE, the new Prime Minister.

It would be idle to deny that there are features in the change of government which obscure for the moment the outlook for all engaged in industry and trade. Apart from the question of nationalisation—a subject upon which the supply industry made itself clear in its reports to the Ministry of Fuel and Power when giving its recommendations for the reorganisation of the industry,—there are questions of taxation and of controls to which the industrial community will want early answers. We have heard the views of certain members of the new Government who aim at speeding up Parliamentary business by introducing more legislation by Ministerial Order, Regulation or Decree, and the closest vigilance will need to be exercised if the perpetuation and extension of a system thoroughly distasteful to British ideas is to be avoided. Industry, too, will not forget in a hurry the plans for regimentation that emanated from the Board of Trade under the direction of Dr. DALTON, or that Minister's expression of surprise a week or two ago that he had "been able to get away with so much of it." In the matter of labour,

There are commitments to pursue the war with Japan to a victorious end, and perils in war-torn Europe to be tackled; there is the major turn-over of the industry of this country from war to peacetime needs; the business of re-establish-

the direction of workers and the complete lack of freedom for an employer and an employee to make a mutually satisfactory engagement without the intervention and the sanction of the Ministry of Labour and National Service, provides yet another example of oppressive regimentation. All strangely out of accord with those liberties, for the preservation of which we have victoriously fought during the past six years.

The Nation Waits

THE nation will have to wait a few days for the presentation of the Government programme, and this, prepared with a full sense of the power vested in the new leaders, will, it may be hoped, be accompanied by a proper sense of responsibility. Some plans and policies may be expected to follow the lines laid down by the late Government, since some of the leading personalities in the new administration themselves played a part in shaping them, while others will be subject to the closest examination in and out of Parliament. Since all Governments are judged not by their promises but by their actions, it will therefore be interesting to see to what extent the planned programme tallies with the claims made in the height of the election campaign.

The Coal Industry

THE condition of the coal industry is of utmost importance to the electricity supply industry at any time, but with the prospects facing the generation side of the industry next winter, that condition becomes as much an electricity concern as it does a mining problem. The Mining Association of Great Britain in an attempt to explain how the low efficiency output has come about, points out that following the publication of the White Paper of June 23, 1942, the Government took operational control of the coal mines, "to ensure maximum production to meet war-time needs," and with the Minister of Fuel and Power himself taking responsibility, the miners are working fewer shifts per week; their average earnings per shift have increased; the wages cost of winning a ton of coal has risen; the price of coal has gone up; and the output of coal has gone down. Observations on this state of affairs are given by the association in a series of broadsheets, and though it is not within the province of the supply industry to put the coal

industry in as efficient a state as its own, there will be found in these publications an explanation of some of the reasons for the unhappy position in which the coal industry is putting electricity supply.

Mine-Owners and Government Plan

PRESUMABLY, in the hope of improving these conditions in the industry, the Mining Association has accepted the Government's policy as stated by Major LLOYD GEORGE, in the House of Commons on May 29, and has undertaken to do all in its power to make that policy effective. This assurance carries with it the mine-owners' approval of the setting up of a central authority appointed by the Ministry of Fuel, and the association is drawing up an extensive scheme of research. The programme is based on the findings of a special technical committee and though information on the points at issue is at the moment necessarily scanty, it seems to us that electrification must play a large part in the scheme of things. As a close liaison between the two industries, electricity and coal, is already suggested by the technical committee we may yet see the mines being worked as they ought to be.

Coal Stocks at Power Stations

AS things now stand between electricity supply and coal, the Ministry of Fuel and Power has made it known that coal stocks now held by the supply industry are sufficient to last a little over five weeks, but it is hoped that by October a six weeks' stock will have been built up. This in theory is reasonable enough, but the fact must not be overlooked that much of this coal stock is made up of low-grade material, in many cases unsuitable for burning at the power stations where it is dumped, and this may result in incapacitating some of the generating plant of which the industry is so greatly in need. These brief facts make clear how closely related are coal and electricity interests, and if the activities of the mine-owners' association and the acceptance of the Government policy, are able to improve the position in any way, the electrical industry may be relied upon to give every support. Indeed, if the coal industry and the Ministry of Fuel had together been more willing in the past to accept the support of the supply engineer in considering how the present situation might have been avoided, the chances are that

the Mining Association might have had a very different story to tell.

The G.E.C. and the Future

THE remarks made by Sir HARRY RAILING at the annual meeting of the General Electric Co., Ltd., last week, were particularly apt, for followed as they were on the same day by the announcement of the election results, they reflected the views of industry respecting the years of reconstruction which face us. There is, said Sir HARRY, no disagreement on post-war aims whatever party cries may be raised. We may differ on methods. But everybody will agree that the objects can be attained only if goodwill exists, if the wells of co-operation are not poisoned by the artificial exaggeration of differences, and the imputation of unfair motives. It is imperative that there should be co-operation instead of dissension, concentration on the solution of the problems created by the immediate aftermath of the war, instead of magnifying minor points of difference, the solution of which can wait. The deliberate creation of friction, the conscious exaggeration of differences are a crime against all those who during six long years have given their lives or their health so that there might be reaped a harvest, not of strife and friction within the nation, but one of peace and contentment.

Call for Increased Industrial Output

THE same arguments which apply to the nation apply to industry. The post-war aim of full employment and all that goes with it can, said Sir HARRY RAILING, only be achieved by increased output from industry. This, in turn, can only be achieved by increased capital outlay for each worker, and by increased effort and output by everyone. Both are essential in order to produce that competitive increased output value per man which is required to pay for the food and raw materials necessary for our very existence, and on the amount of which will ultimately depend what measure of security, standard of living and leisure we can afford and enjoy. Neither the capital outlay nor the increased effort will be forthcoming unless common confidence, trust and goodwill exist and are fostered between employers and employees. The greater this confidence, the less effort will be wasted in unnecessary

and harmful friction, the greater and quicker will be the progress for all.

Market Research and Exports

WE have on many occasions referred to the necessity for a revision in the methods employed by some of our manufacturers in seeking export trade, and in a letter reproduced in this issue, the urgency of that revision is made clear. Apparently, the American theory of a few months ago to the effect that U.S. manufacturers must be prepared for export trade with Europe and her neighbours as soon as VE-Day was declared, has developed into practical competition, and men in the Forces stationed in the Middle East, are the unfortunate witnesses of seeing American samples win for their makers, trade which but for the lack of similar display goods, might have been captured for the United Kingdom. It is true that the U.S. manufacturer, because he has been relatively untouched by the war, has advantages which our own manufacturers are even now denied under Government controls, but even so, unless our correspondent is sadly mistaken, some further effort at least should be made to keep overseas agents informed of what they might expect from our workshops; samples may be impossible, but particulars with claims of performance and so on can, as the next best thing, be very helpful when placed at the disposal of an overseas buyer, and their transmission to the Middle East seems called for without delay.

Ironmongers and Electrical Trading

THE annual report of the Electrical Section of the National Federation of Ironmongers contains a number of statements with respect to the electrical contractor which seem to call for some response from the E.C.A. In the first place, it is claimed that distribution arrangements in the industry are not likely to produce an efficient retail trade, and in the second, a large proportion of electrical contractors are not interested in retailing beyond enjoying the convenience of sending their clients to a manufacturers' showroom; it is also claimed that in general, margins on electrical goods are inadequate. We have no knowledge of the facts upon which these claims are made, but if true, the electrical contractor appears to be doing very nicely in spite of them.

Electric Appliance Design

Some Views on Domestic Considerations and Limitations

DURING the past few months there have been displayed at various exhibitions, a number of prototype domestic electrical appliances which, though not yet put into production on account of labour and material shortages, indicate to some extent the thoughts being entertained by manufacturers in regard to future products. An examination of these prototypes with a view to criticism, leaves little room for complaint, but the designs do nevertheless conjure to mind thoughts about their cost to the public.

Question of Cost

In few cases have the appliances gone beyond the hand-made prototype itself and consequently, the question of possible selling cost has not yet perhaps been seriously considered. When it is, however, the ultimate design may possibly need to be very different from that exhibited, on purely economic grounds.

It is agreed by most manufacturers that future domestic electrical appliances must not only be good but they must, too, be cheap enough to be within the scope of the majority of the purchasing public. Before the war, prices had been so lowered in the case of portable appliances that even most well-known and reputable makes could be enjoyed by the most humble home. In the immediate future, or rather when general manufacture is again permitted or possible, it may be found that the cost of materials and other considerations may require the old selling price of a 1-kW fire, for instance, to be raised from something under a pound to a good deal over, always excluding the problem of purchase tax.

With this thought in mind it has occurred to the writer that though many of the prototype appliances to be seen are very desirable, it might be better in the long run to encourage the public to expect something simpler in design, something less potentially costly to produce, yet offering an equally high standard of performance, until such time that the raw materials of labour and metal become more reasonably near to the economics of pre-war days.

One of the most desired appliances in the home is the electric refrigerator, and though it is admitted by those who know, that the pre-war prices asked for these devices were cut to a minimum, the general public, uninformed on manufacturing costs, in some cases looked upon the refrigerator as a semi-luxury article. To those with small household incomes the

refrigerator was in 1939, therefore, in many cases something which did not materialise beyond desirability, and while admitting all the advantages of hire purchase and other attractive easy-payment schemes, to the small-income householder the refrigerator was in many cases still looked upon as something beyond his means.

Small Income Buyers

The biggest percentage of the purchasing public is made up of the small income group, and in designing appliances for the future the industry will, therefore, need to cater for that group if maximum sales are to be enjoyed. Accepting this as a fact, the industry is thus confronted with the question, whether or not, the various prototype designs now to be seen by the public could be manufactured and sold at prices which would appeal to the masses, while still making their production reasonably economic.

The problem appears to the writer to be less acute in the case of portable appliances than it does in regard to washing machines, dish-washers, clothes-airers and similar devices, for these latter being, generally speaking, low current consumers, are not because of the capital outlay, as a rule available on simple hire. The higher price appliance for this reason must therefore be sold to the public outright, and therein is a sales problem which must be solved if the availability of all the advantages of electrical service is to be within the reach of everyone who is an honest ratepayer.

The problem has been overcome with considerable success by the radio industry, and rare is the house where a multi-valve receiver is not to be found. The problem was before the war all but solved by the car industry, and frankly the writer has sufficient faith in the enterprise of the electrical industry to believe that it too can overcome the difficulty, once it is in the mood to apply its mind to finding a solution.

Telephone Surcharges.—At a meeting of Hull Telephones Committee the manager reported that an inquiry had been sent to the Postmaster-General asking whether an early repeal might be expected of the legislation under which war surcharges were payable by telephone subscribers. The Postmaster-General expressed regret that he was not in a position to answer the question.

Accountancy for Contractors

By S. HOWARD WITHEY, F.C.I.

THE practical contractor is naturally inclined to judge the utility of his stock records by the readiness with which the information enables him to satisfy the requirements of customers, but he must also adopt measures calculated to ensure the realisation of an adequate margin of profit, otherwise he may be compelled, sooner or later, to limit his sphere of activity owing to a shortage of working capital.

In normal times, good buying is, of course, an essential factor, but this cannot be achieved unless suitable records of prices and of all business transactions are kept in a convenient and systematic manner.

Maintenance of Stocks

The stock of goods, articles, materials, and accessories should not be allowed to dwindle below the minimum which past experience, in conjunction with existing trade potentialities, proves to be advisable to carry. On the other hand, ill-considered acquisition of stock of any kind may very easily prove to be disastrous, and it is from the standpoint of an avoidance of excesses and waste, and of general economy and efficiency, that the utility of the records should be judged.

By means of cards kept in a drawer, or sheets bound in book form, the stock of essential goods may be grouped under suitable headings which will naturally vary somewhat in individual cases, according to a magnitude of the turn-over and the particular direction in which the contractor is concentrating the greater part of his attention. Each card or sheet should give the date on which the goods came to hand, the name of the manufacturer or supplier, and the quantity and description, and should be provided with columns or sections for the insertion of all issues made from stock, and for other essential particulars. The records may be arranged in alphabetical or numerical order, the cards or sheets being of convenient size—such as 6 ins. by 4 ins.

In addition to an inwards book kept in the stock room or receiving department, a suitably ruled and printed stock-book should be used for recording everything received and issued, no entry being made in this book until such time as the general condition of the goods or articles has been verified and compared with the original order, a copy of which will be retained.

The need for using written requisitions arises from the fact that some electrical products are frequently moved from one

room to another, but no very elaborate form of requisition is called for, providing the departments are planned by reference to service, and not merely according to location. The orders given for the supply of equipment should be made out in triplicate, one copy being retained in the stock room, and another copy transferred to the office, and for the purpose of compelling the assistant actually to verify the accuracy of everything received, some contractors and firms make a practice of removing the quantities and prices by cutting the carbon copy which is reserved for the receiving department.

By keeping the stock records entered up to date, it will be possible to ascertain both the quantity and the value of the stock on hand under any particular heading at any time, and consequently it will not be necessary to wait until the end of the financial year or other accounting period in order to determine the precise amount of gross profit made. At some convenient date during the year, the stock under each heading can usually be counted, and any necessary adjustments made in the books. Thus, by keeping a small stock ledger containing accounts for the different classes and descriptions, the proprietor may be able to avoid the inconvenience and interruption caused at stock-taking time by relying entirely on the perpetual inventories.

Trading Account

When preparing a trading account for the purpose of ascertaining the balance of gross profit, the value of the stock on hand as at the beginning of the particular period under review, as assessed at cost price, should be set down as the first item on the debit side, followed by the cost of the purchases during the entire period, after deducting the value of all returns outwards and allowances made by suppliers in lieu of actual returns. The labour charges can then be debited, and on the credit side of the account should be shown the value of the cash and credit sales for the period, after deducting all returns inwards and allowances made to customers, also the value of the stock on hand as at the end of the period, as assessed at cost price or market price, whichever is the lower. The amount by which the total of the credits exceeds the debit total will represent gross profit, and this amount will have to be transferred to the credit side of a profit and loss account which will have to be drawn up for the purpose of arriving at the balance of net profit realised on the

business as a whole, or the extent of the loss which has been sustained, as the case may be.

When preparing a physical inventory of apparatus, the work can be apportioned in a systematic manner to ensure the greatest possible accuracy in the records. One person, for example, should be allocated to call out the quantities and descriptions of the goods, etc., in each store, these particulars being set down on suitably ruled and printed stock sheets. If desired, the details can be analysed under separate headings, enabling the gross profit under each heading to be readily ascertained, the basis for valuation purposes being the cost price or the prevailing market price, whichever is the lower. Apparatus which has been damaged or soiled should be priced out on the basis of its value as at the stock-taking date, but old unsaleable stock should be excluded or left unpriced.

Responsibility for accuracy in the pricing of stock will be assumed by the buyer or by the manager of the ordering department, but all calculations and additions should be independently checked. The work performed by each person should be signed for, the total value of the stock on hand being certified by the contractor, the partners, or by the directors, as the case may be.

Assistants' Certificates

The certificates of the assistants should appear directly above the contractor's or managerial certificate. The total value of the stock will be passed through the books at the end of the year by debiting the stock account and crediting either the separate trading or goods accounts, or the final profit and loss account. If any kind of classification has been made, a summary should be made out showing the total under each heading as well as the grand total, and generally speaking it may be considered wise to make a small percentage deduction from each total as a provision against discounts, wastage, etc., thus ensuring that the stock has not been passed through the books at a figure exceeding its real value. The income tax authorities do not, as a rule, object to this, providing there is no real intention to conceal profits made, while at the same time this course prevents money being withdrawn from the business out of capital instead of out of actual profits.

Many contractors will have already prepared accounts showing the amount of profit realised during the past year, and the items remaining on the trial balance, or summary of ledger balances, after the periodical profit and loss account has been prepared, will represent assets or liabilities. These amounts will have to be arranged in the form of a balance sheet exhibiting a true and correct view of the financial

position in relation to the business and the outside world. While the assets of the limited liability company are usually shown on the balance sheet in the order of their permanence, it is better to enumerate the assets of the sole proprietor, and of partners, in the order of their convertibility, that is to say, by reference to the readiness with which the assets could be converted into actual cash, if such a course was found to be necessary. The following will serve as a practical guide when determining the order in which the different items should appear in the final statement.

Classification of Assets

Cash in hand as at the stock taking date, as shown by the general cash book, including petty cash as per petty cash book. Both the cash book balance and the petty cash book balance should be reconciled with the actual contents of the till, register or cash box.

Cash at bank as at the balancing date, as shown by the general cash book. This amount should be reconciled with the balance as per bank pass book, or the bank ledger abstract.

Money advanced, and which is returnable either on demand or at very short notice. Investments and securities of a gilt-edged nature. Any other assets which could be converted into cash at once. Book debts, as per list of ledger balances. For the contractor's own convenience these should be divided into good debts, doubtful debts, and bad debts.

Shares held in electrical engineering, manufacturing and equipment companies accustomed to distribute dividends.

Value of stock of goods, articles, materials, and stores on hand at the end of the period, as shown by the inventory or stock accounts, and corresponding with the amount recorded on the credit side of the periodical trading or profit and loss account. Any other assets realisable at short notice. Vans, delivery cycles, etc.

Machines and plant, including dynamos, electric motors, machines, tools, loose plant, etc., after deducting depreciation and including the value of additions during the accounting period. Equipment and utensils, including battery chargers, etc.

Value of the business premises, including freehold or leasehold land. In the case of leasehold property, provision should be made for effluxion of time by subjecting the capital value to a deduction for depreciation of the lease.

Shares or debentures held for the purpose of securing turn-over as distinct from investments. Value of business goodwill, including patents or trade marks. Any other assets which are unrealisable except with the electrical business as a going concern.

Where applicable, the liabilities should be shown in the following sequence: Amount due to bankers; sundry trade creditors; accrued expenses; loans or mortgages; reserves; capital account of the proprietor, or the capital accounts of the partners. The following is a specimen balance sheet drawn up as at the end of September last (shillings and pence omitted):—

| BALANCE SHEET | |
|---|--------|
| September 30, 1944 | |
| Liabilities. | £ |
| Sundry Trade Creditors | 1 224 |
| Accrued Charges (including taxation) | 1 216 |
| Capital viz:— | |
| Balance as at September 30, 1943 | £4 757 |
| Less drawings | 350 |
| | £4 407 |
| Add net profit for the year as per P. & L. account | 643 |
| | 5 050 |
| | £7 490 |

| Assets. | £ |
|---|--------|
| Cash in hand | 59 |
| Cash at bank... .. | 263 |
| War Loan | 250 |
| Sundry debtors | £660 |
| Less reserve | 50 |
| | 610 |
| Stocks | 833 |
| Machinery and plant (fixed), Less depreciation | 950 |
| Freehold land and buildings | 2 500 |
| Loose plant and tools, Less depreciation | 375 |
| Goodwill | 1 500 |
| Advance payments | 52 |
| Unexpired insurances | 98 |
| | £7 490 |

When the final figures have been determined and agreed to, the balance of the periodical profit and loss account can be transferred to the capital account of the proprietor, or dissected and transferred to the separate accounts of the partners, as the case may be, and the balances of the assets and liability accounts brought down to commence the following period.

Correspondence

The Editor welcomes the free expression in these columns of genuine opinions on matters of public interest, although he disclaims responsibility alike for the opinions themselves and the manner of their expression.

Market Research [TO THE EDITOR]

Sir,—It was with very great interest that I read the article in THE ELECTRICIAN dated July 5 entitled "Market Research and Exports."

My partner and I, trading as M. and B. (Exports) with war-time address at 1 High Street, Moreton-in-Marsh, Gloucestershire, realised the great opportunities offered, during our stay in the Middle East countries for the expansion of the British export trade, and after two years study of the markets, people, customs, commercial habits, formed our company with the objects of introducing British goods into the Middle East, handling each manufacturer's goods to the best advantage and by previous knowledge gained, teaching the buyers that it pays them to buy and deal in British products.

It is now eighteen months since our venture started and although it has been an uphill struggle, we are beginning to see results, which it is hoped will be beneficial to all concerned.

There are one or two points I would like to add to those made in your article in respect of the specialist representatives. The men at present in the Armed Forces

will certainly be in the best position to know from first hand knowledge, the conditions of the countries in which they are serving, but unless some kind of organised research is made, many conflicting reports will be received from men in the same countries, and it is suggested that manufacturers draw up a questionnaire which could be forwarded to their employees now serving abroad, and in this way a composite picture could be made up to assess the potentialities of future trade in these countries.

From my own point of view and experience, the hardest people to convince are the British manufacturers themselves, and it is almost impossible to get them to take a long-sighted view in regard to future business overseas. The favourite excuse given is that the controls do not allow any margin for export trade, and that they expect the home market to absorb their complete stocks for the next year or so. That may be the case, but what do they expect to do after the next "year or so"? Other countries are also in the same position but they are already supplying their overseas representatives with samples, advertising media, and other ideas for keeping their goods before the public until such times as the goods themselves are avail-

able. By the end of two years all the overseas markets will again be in the hands of competing countries, unless an effort is made to start now, and recapture the interest of pre-war customers abroad. It is essential that samples, advertising literature and price lists (approximate), be sent to overseas agents and potential buyers, so that orders may be booked ahead. I myself have had many inquiries for our goods but as the manufacturers in Britain will not send samples or particulars, the customers have had to go to American agents who already have showrooms stocked with goods which may not be at present available, but from which they can book orders.

I am afraid I have rather let myself go on this subject, but as I see every day some more business going to other countries, I think it is time someone told British manufacturers the true position and perhaps through the courtesy of your paper I may be able to do something to help.

I remain,
Yours faithfully,
CHAS. H. MITCHELL.

M.E.F.

Manufacturers and Overseas Trade

[TO THE EDITOR]

Sir,—The articles which you have been publishing recently on the prospects of export trade, are to me, an engineer in the Merchant Navy, with experience in all parts of the world, decidedly encouraging. I say this because they show in clear light the fault, so common to many of the smaller British exporters, of attempting to do business abroad with less of the regard to local needs, displayed by American and in pre-war days German exporting firms of similar capacity.

A good many years experience at sea has made it clear to me that too many British manufacturers lose trade abroad because they are too inclined to look upon such business as something which can be captured with little effort on their part, and when secured can be regarded as something complementary to their home trade. Far from this being the case, however, export trade is a business every bit as responsive to nursing as the home trade and evidence of the truth of this fact is to be found in the way our big industrialists tackle the problem. Our large exporting firms are, however, few in number in spite of the enormous turnover which they bring about in the export market; what would be more satisfactory would be to see more of the smaller firms approach the problem with the zeal and thoroughness of their big brothers.

Our post-war prosperity will depend

to a large extent upon a prosperous Mercantile Marine, while the financial success of our export trade will depend to a large extent upon the cheap, speedy and efficient transport of goods. A prosperous Mercantile Marine means efficiency, for with prosperity to help it along, the shipping world is prepared to build bigger and faster cargo carrying vessels, and these in their turn will mean lower freight charges.

Between the last war and this, too many British cargoes were carried in foreign vessels, and British ships were in consequence laid up in rivers and ports around the coasts. This must not be repeated if our export trade is to succeed, for as important to British prestige as are our engineering products, British ships—themselves a creation of British engineering—flying the Red Ensign, have always been the best trade representatives the country has ever known.

Yours faithfully,
L. M. DURHAM.

Liverpool.

All-Electric Housing

[TO THE EDITOR]

Sir,—The particulars in the last two issues of THE ELECTRICIAN, concerning the progress of electricity in establishing itself in the minds of those in charge of our housing programmes make pleasant reading. It is, however, regretted that there are still housing committees who think in terms of gas, especially for cooking and hot water, when the superiority of electricity for all services has been proved times out of number. A brief investigation of the position shows that in many cases, members of housing committees are themselves gas consumers and know no more about electricity than has been told them by their architect or engineer. If their informant is the former, the details are usually deficient and lacking technical experience, while if the electrical engineer has been permitted to enter into the discussion, it is more often than not assumed by the gas-minded that his views are biased.

Not only do we need new houses but in many instances we could do with new housing committee members as well, for while the case for gas may be legitimately championed by the gas industry—and good luck to them—that same loyalty when displayed by committee men is based not on any better technical knowledge of gas than electricity, but because they themselves have not used electricity and know no more of its merits than what they have been able to observe from hearsay.

In the circumstances it seems to me that the industry is doing itself a dis-

service by not earmarking these gentlemen, and ensuring that the necessary experience is granted to them—even to the extent of inviting them to a special demonstration of electric cooking and afterwards turning them loose to try for themselves. Housing committee members are of necessity public-spirited, it being assumed that they would not otherwise have been elected for the job—and their liking for gas is to be pitied, rather than deprecated. That being so, surely it is within the possibilities of the electrical industry to show them the light, to convert them from leading a life reminiscent of a by-gone age? Gas is good for many things—but for post-war housing, electricity is the fuel, and it is up to the industry to see that it is used.

Yours faithfully,

July 30.

J. N. HARDY.

Street Lighting

[TO THE EDITOR]

Sir,—When the present standard of street lighting returned after nearly six years of black-out, it was heralded by starlighting, moonlighting and other descriptions given to the permitted reduced

lighting of last winter. These forms of indifferent lighting, though insufficient in candle-power were more or less consistent in giving stretches of road through different districts freedom from contrasts. With the now full lighting arrangements in force, more than ever does it appear necessary for street lighting to be made a national, as opposed to a municipal, responsibility. I say this with due regard to the times in which we live, scarcity of labour and material and so on, but I fail to see any reason why one municipality should be permitted to maintain its area in a state of gloom, while its neighbours do their best to reduce the accident rate by adequately lighting their streets.

The accident rate on our roads is appalling, but could be appreciatively reduced if only our streets were freed from the shadow-pools and black spots, which much of our street lighting still produces. The responsibility for their removal is vested in our local authorities, and they in consequence share in the responsibility for the death rate on our roads. It is time that they were told of this fact.

Yours faithfully,

London.

F. NORMAN.

Documentary Film on Steel Making

There is being shown at the Gaumont Cinema, Haymarket, London, W., a film designed to assist in the regaining of our export markets, and because it is the first attempt made in this country to film the making of steel in colour, it is commanding wide-spread interest. Sponsored by the British Council in association with the British Iron and Steel Federation, the film sets out to show some of the varied aspects of the production of British high-grade steel.

Written and directed by Mr. Ronald H. Riley for Technique Film Productions, "Steel" is one of the first films to come out of the new association, the Film Producers' Guild, and the film creates for the steel industry just that atmosphere of alertness and confidence in the future, which we have so often hoped to see pictured for the electrical industry.

Before commencing production, some months were spent visiting steel works and engineering establishments all over the United Kingdom in order to obtain first hand knowledge of the many and varied processes involved in modern steel making, while the sound track of the film is regarded among film technicians as one of the finest examples of perfect co-ordination of the three sound media, commentary, music and effects. So far as we are capable of criticising a film, well might

this be so. Shooting in the steel works under war-time black-out conditions presented some difficulties to the camera unit, for apart from the fact that technicolour photography calls for nearly five times the amount of light normally required for black-and-white photography, many of the works' interiors were so large and dark that shooting appeared to be almost hopeless. All the studio's available arc-lamps which were sent to the steel works, plus the maximum output of the country's largest mobile generator, plus the full capacity of the works' own generating stations still could not provide sufficient light for many scenes to be photographed. In the end the co-operation of the Air Ministry was sought and the unit was provided by their pyrotechnic experts with additional illumination in the form of a quantity of R.A.F. flares of a quarter-million c.p.

The film was mainly photographed at the works of Colvilles Ltd., Motherwell; Rolls Royce Ltd., Glasgow; Guest Keen and Baldwin Ltd., Cardiff; Richard Thomas and Co. Ltd., Ebbw Vale; Dorman Long and Co. Ltd., Middlesbrough; English Steel Corporation, Sheffield; Firth and Brown Ltd., Sheffield; J. Arthur Balfour Ltd., Sheffield; and Stewarts and Lloyds Ltd., Corby. Some of the close-ups are remarkably good photography.

Electrical News from South Africa

The Appliances Trade—Switchgear at Orlando Station

A RECOMMENDATION that the Cape Town City Council should not accede to a request from the Cape Chamber of Industries—made on behalf of the South African Radio, Refrigerator and Electrical Appliances Association (Western Province branch)—that the Council should withdraw from the trade in domestic electric appliances and leave this to dealers only, has been adopted. The Electricity and Waterworks Committee recommended that, instead, the Council should resume its hire-purchase scheme as soon as circumstances permit, and also that, in the meantime, the City Electrical Engineer be authorised to negotiate with those dealers who collaborated in the Council scheme before it lapsed in 1942, with a view to re-instituting it as soon as possible on the same general lines as before.

Educating the Public

The S.A.R.R. and E. Association submitted that the Council's scheme had served its purpose of educating the public to the benefits of using electrical appliances. The Electricity Committee has reported that for some time manufacturers in Great Britain, Canada and the United States have been preparing to resume the manufacture and export of electrical domestic appliances on a large scale immediately the European war ceased. The Council's six electricity showrooms in different parts of Cape Town are ready for use, and the seventh in Electricity House in the centre of the city can be made ready at short notice. The Council's scheme, operated in conjunction with these showrooms, resulted in a phenomenal increase in electricity sales. Between the inauguration of the scheme in 1930 and its lapse in 1942 nearly £1 500 000 of appliances were sold through the Council. Electricity consumption in the same period jumped from 65 000 000 units a year to 300 000 000 units. Of the increase, 163 000 000 units were due to the increased use made of electricity for domestic purposes. The maintenance of a high load factor has made it possible to supply current at a relative low cost per unit.

In a review of South Africa's industrial progress from 1910 to the present day, Dr. H. J. van Eck, chairman of the Industrial Development Corporation, said that in 1910 the Union's electrical production was only about one-tenth of the 6 638 361 000 units "which we used in 1943 at a total production cost of £14 782 500, and the average selling price of .534d. per unit is probably the lowest in the world

and only two-thirds of the price in 1910. Near Vereeniging we possess the greatest power station in the southern hemisphere."

Some 100 delegates, representing 34 municipalities in South Africa and Rhodesia, attended the 19th Convention of the Association of Municipal Electricity Undertakings of South Africa and Rhodesia in the State Lotteries Hall, Salisbury. Mr. J. S. Clinton, city electrical engineer of Salisbury, was elected president of the association, with Mr. J. W. Phillips, city electrical engineer, Bulawayo, as vice-president. In his presidential address, Mr. Clinton urged members to keep before them the fact that times were constantly changing and it was necessary frequently to re-align their approach to the problems of the day. Co-operation between the association and the manufacturing, distributing and commercial communities would lead to better understanding of each other's problems, and so to reduced consumption of man-power and costs of production. In his view the commercial and manufacturing interests should do their share and bear some of the responsibilities. Such an extension of membership would make the association more powerful. It might be that a national joint electricity board might emerge from an identity of interests. The association already constituted a big nucleus, but it would be necessary to evolve machinery to watch all interests and restrict uneconomic developments. It would be necessary to raise the output per man hour in the electrical industry and so contribute to the general welfare of the country. The association should take the lead in setting a standard of industrial efficiency and see that members came up to that standard. There was a social force which the world had to recognise, namely, the extent to which the group had an existence, the extent of individual responsibilities to the group, and the amount of free individual action that was still essential to economic progress.

Railway Improvements

Railway improvements in Natal call for an expenditure of £2 000 000 on track alterations and renewals between Pietermaritzburg and Ladysmith, and the electrification of the suburban line from Booth Junction to Cato Ridge via Hillcrest. This will result in a speedier and more frequent service to the many popular residential areas on the Durban side of Hillcrest. This service will be brought more into line with the electrification services in the Cape and on the Witwatersrand.

In the financial year just ended the Bloemfontein electricity undertaking has shown a profit of £51 300, of which £36 000 has been devoted to the relief of rates. The anticipated profit for the coming year is £31 425. There has been a steady increase in the demand for electricity.

There is a growing feeling in South Africa among firms manufacturing various sorts of electrical appliances that a piece-work system would yield improved results. It is said that at present there was some lassitude in the electrical engineering industry, not only on the part of labour but on that of the management. For this state of affairs the "cost-plus" system was to blame. The system did not induce employers to increase efficiency in order to lower costs in an attempt to make larger profits as the percentage profit was fixed. The less a job cost, the less was the profit on it. As a result, employers had become complacent about their production costs.

The 88kW switchgear at the Orlando power station is of the outdoor type. The busbars are in duplicate at a comparatively low level (12 ft. minimum above ground), the pedestal or post insulators carrying the busbars being mounted on concrete columns and beams. The busbars are of copper tubing 3 in. outside diameter and 2½ in. internal diameter. The busbar isolators are operated manually by a mechanism mounted on the centre support of each set of busbars. This mechanism is provided with a magnetic bolt interlock which precludes the possibility of operation of the isolators unless the oil circuit-breaker of that particular section is in the open position. The interlock mechanism comprises a substantial collar secured to the vertical operating torque rod, the collar being provided with two slots into which a locking lug connects on completion of the operation of opening or closing the isolator.

The Ring Circuit

By "SUPERVISOR"

THE statement regarding the use of the ring circuit in wiring practice, on page 12 of the I.E.E. Journal (Part I, General) for June, goes far to remove some of the uncertainty surrounding this proposal for post-war wiring work. It will be remembered that the Post-War Building Study No. 11—Electrical Installations, recommended that up to 20 standard socket outlets should be connected to a ring circuit in domestic premises, with anticipated economy in wiring, and in order to take account of domestic diversity of demand.

This was over a year ago, however, and since that time there has been argument for and against, with a general feeling of uncertainty as to whether this step would, or would not, eventually receive official approval. This feeling was justified on account of the opposition registered in many and influential quarters, and the fact that the proposal represented a direct contravention of the I.E.E. Regulations as they now stand.

The relevant paragraph runs as follows: "It is the purpose of this Foreword to indicate the steps which are at present being taken to validate the use of the ring circuit, and thus to reassure the planners of electrical installations that they may adopt this method in cases where they feel its use to be advantageous, without hesitation based on a fear that in so doing the Regulations might be held to be contravened." There is thus a clear approval in principle, but it would seem

that it does not go quite far enough, and that a further statement is necessary in order to clear the air completely. As mentioned above, the Foreword goes only part of the way towards this end.

In addition to recommending the adoption of the ring circuit, Study No. 11 hints at suggestions as to the sizes of cables to be used on such circuits. Although on page 18 only the general principle of the ring circuit is discussed, on page 20, amongst the several requirements for the new standard socket outlet set forth, we find that the terminals are required to accommodate a 7/.029 cable looped in and out, and also a "spur" connection if necessary. It is felt that in considering the new standard socket the Committee had in mind its suitability for use on the ring circuit, and from this we are bound to conclude that 7/.029 cable would also be considered adequate for the ring circuit.

This is rather confirmed by para. vi of the Appendix, dealing with the recommended standard socket outlet, again mentioning 7/.029 cable and no other sizes. On page 20, where the general principle is discussed, it is stated that the ring circuit should be fused at 30 A, which would be satisfied with the use of 7/.029 cable, as it enjoys a conservative rating of 15 A.

In addition to this welcome approval in principle, therefore, we are entitled to ask if the use of 7/.029 cable for the ring circuit may also have advance approval. It is thought that this point

should be established as soon as possible, for if there is one matter upon which the Wiring Regulations Committee has exhibited a most conservative attitude it is in the matter of wiring to socket outlets. It is felt that there may be some boggling at the idea of connecting up to twenty 3 kW socket outlets to a ring circuit of 7/.029 cable, and any doubts on the point should be removed as soon as possible.

Evidence of Doubt

As evidence for the existence of doubt we have only to look at the Regulations as they stand at present. For one 15A socket outlet it is necessary to instal 7/.029 cable, and fuse to 15 A; a second 15 A socket is permitted on a sub-circuit "where diversity is justified," but in spite of this the cable size must be increased to 7/.036, and the fuse rating must not be greater than 25 A. This is not easily understood, as although diversity is justified—a condition for the installation of the second socket outlet—yet a 30 A cable is thought necessary.

Requirements are equally onerous for the installation of the smaller socket outlets. For instance, two 5 A sockets need 3/.036 cable, and three 5 A outlets 7/.029 cable; two sockets may be fused to a 10 A rating and three to 15 A, clearly no allowance for diversity is made in connection with 5 A sockets. It is true that up to ten 2 A socket outlets may be installed on one sub-circuit, and in this case the wiring and fuse rating should be in accordance with the actual load.

As a point of fact, however, the Regulations do not appear to limit 5 A socket outlets to three per sub-circuit, as is commonly thought, but in most cases the cable has to be selected on the basis of a full 5 A demand from each socket outlet; in cases where a diversity factor is applicable, the cable may be rated at two-thirds that necessary to cope with the full 5A demand from each socket. So long, therefore, that the total demand from the sub-circuit does not exceed 15A, as many 5A sockets as are necessary may be placed on the sub-circuit, even up to a maximum of ten. In spite of the fact that the sub-circuit fuse rating is 15A only, under this rule we must provide a cable that will carry $33\frac{1}{3}$ A—two-thirds of 50A, the total rating of the circuit—which is, as friend Euclid says, absurd.

The leap forward from these restrictive regulations to any proposal to instal up to 20 13A socket outlets on one 7/.029 ring circuit represents so great an advance that most of us will feel very uncomfortable until the point is actually conceded. Domestic diversity has received very little attention at all on the part of the compilers of regulations, although it is known

that maximum demand represents a fraction of the total connected load. There is no doubt that many tons of unwanted copper, and many pounds of wanted cash have been expended in socket outlet circuits, a state of affairs that cannot continue if the full benefits of domestic electrification are to be enjoyed from now on.

We should be quite clear as to what is to be connected to this ring circuit. In a diagram on page 19 of Study No. 11 there are three sub-fuseways, one for lighting, one for the cooker, and the third for the ring circuit. The ring circuit is labelled "socket outlet ring circuit" but there seems to be no reason why such apparatus as a water heater should not be connected. It is understood that the recommended form of water heater has two elements, one of 500W and another of 2 000W; if switched on together these form a load less than a 3kW radiator, the connection of which is not feared on the ring circuit. It has to be remembered, too, that many of the 20-socket outlets on the ring circuit, assuming that so many are installed, will be required for lighting purposes, as all socket outlets will be supplied from the ring. The heater for the proposed drying cupboard would also form one of the ring demands.

Fusing of Plugs

It goes without saying that all plugs used on the ring circuit would be fused in accordance with the local demand, in fact, this is an essential feature of the proposal. However large or extensive the main lighting circuit in a house, it would not appear to require more than one circuit; a second line of defence against failure of the lighting fuse would be provided by the standard lamps operating from the ring circuit.

This official approval given to the use of the ring main is comforting, as far as it goes. It is still necessary to know that we may utilise 7/.029 cables for the ring circuit, as visualised by the Committee responsible for Study No. 11, but not, so far, definitely approved in official quarters. In addition, we want to know what socket outlets we are to instal with this ring main, and when the domestic standard socket outlet will see the light of day. This matter was passed to B.E.A.M.A. "as a matter of urgency" well over a year ago, but at the time of writing we do not know what the new official standard will be.

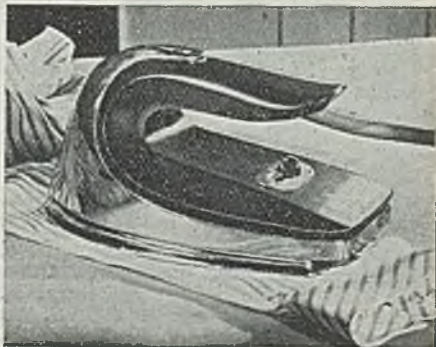
It is true that an acceptable 13A socket outlet, comprising all that the Committee recommend for a new standard, has appeared on the market, and is likely to receive widespread approval. But we still need to know something officially, and without which the present approval is almost valueless.

New Equipment

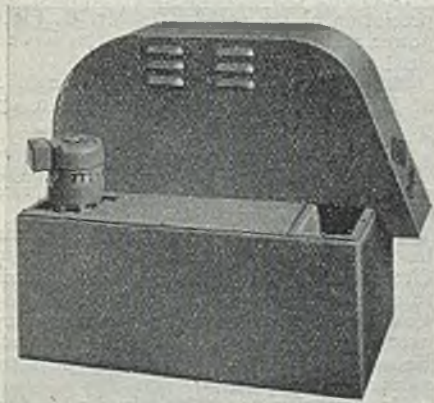
Coolant Clarifier for Machine Tools—Prototype Appliances

DETAILS have been sent to us by **Arthur Scrivener Ltd.**, of Birmingham, of a system which clarifies the coolant used in machine tools, and returns the coolant for further use. In describing the system the company point out that examination in the case of any machine will reveal that the coolant is loaded with grinding swarf and broken abrasive particles, all of which material is continuously applied to the work with the coolant in which it is suspended, tending thereby to impair the final surface. The presence of a coolant tank with settling compartment merely serves to hide the real reason for faulty surface finish, without making any effective contribution to its removal. The

which the used coolant is fed through a restricted channel past a rotating alu-



Prototype iron by B. and T. Components, Ltd.



The Scrivener clarifier for coolants

coolant tanks provided for grinding machines are invariably far too small, and they are not in all cases cleaned out either regularly or thoroughly. Assuming, however, that a tank is thoroughly cleaned out once a day, every particle of swarf and abrasive removed, and the tank refilled with clean coolant, it has to be borne in mind that a machine such as the average centreless grinder for instance, working on a normal production basis, is depositing swarf, broken abrasive and similar impurities into the tank at a rate of maybe, nearly five bucketfuls per day. With the constant presence of this material in the coolant it is unreasonable to expect to obtain the highest possible grade of surface finish to the work, and for this reason the Scrivener clarifier was designed. In essentials it consists of a comparatively small distributor tank to

minium disc which carries a series of very powerful magnets. The coolant then passes into the main chamber, in which is placed a large wire basket surrounded with felt. Suspended in this basket is a distributor pump. The aluminium disc revolves slowly, and any ferrous matter as well as grit contained in the used coolant passing through this restricted channel is collected by the magnets, and taken round by the revolving disc to a



Design of heater-cooker by B. and T. Components, Ltd.

position where wiper arms remove the ferrous and grit particles and deposit them in a separate discharge channel, thence

into a bucket or other receptacle placed to receive the sludge. The cleaned coolant is then pumped back to the machine. The equipment, which is suitable for operation on 400/440 V, 50 cycle current, is fitted with a $\frac{1}{4}$ h.p. driving motor, and a pump motor of similar rating. The hourly capacity of the equipment is 60 gal. and the capacity of the distributor tank, 25 gal.

We have received from Sir William Crawford and Partners Ltd., 233, High Holborn, London, W.C.1, illustrations of prototype models of an electric-heater cooker and an electric iron which they

have designed for **B. and T. Components Ltd.**, 4, Wheaton Road, Kingsland Road, London, E.2. These designs are, it is understood, to be put into production as soon as circumstances permit, though the prototypes themselves may be seen at Dorland Hall, Regent Street, London, W. The heater-cooker, as may be seen from the illustration is fitted with a rod element and reflector, while the cooker portion is placed in a horizontal position below in the form of a hot-plate. Both prototypes will be on view at the exhibition to be held in Leeds during the course of this month.

Electrical Personalities

We are always glad to receive from readers news of their social and business activities for publication in this page. Paragraphs should be as brief as possible

Names of electrical interest in the election results included **Sir Andrew Duncan**, the first chairman of the Central Electricity Board, returned; **Sir John S. Wardlaw-Milne**, a director of the Marconi's International Marine Communication Co., Ltd., defeated; **Major J. B. Dodge**, a director of the Nigerian E.S. Corporation Ltd., defeated; **Lord Dunglass**, a director of the Bournemouth and Poole, and the County of London E.S. Companies Ltd., defeated; **Flying Officer, the Hon. John Grimston**, a director of the Enfield Rolling Mills, Ltd., defeated; **Sir Herbert G. Williams**, a director of Bennis Combustion Ltd., defeated.

Mr. C. E. Tavener has been appointed a director of the Globe Telegraph and Trust Co., Ltd.

Among the sixteen members forming the panel of industrial advisers on the Finance Corporation for Industry Ltd., the Government sponsored organisation designed to assist the reconstruction of industry, is **Mr. Harold Hobson**, chairman of the Central Electricity Board; **Mr. C. P. Lister**, chairman of R. A. Lister and Co. Ltd., is another member.

Mr. L. N. Pearson has been elected chairman of the Electrical Section of the National Federation of Ironmongers.

Ald. Robert John Hall has been appointed a director of British Insulated Callender's Cables, Ltd.

The title of **Baron Ramsden** has been adopted by Sir Eugene Ramsden, who received a barony in the King's Birthday Honours. He is chairman of Richard Johnson Clapham and Morris and is on the boards of the Anglo-Portuguese Telephone Co., the North Lincolnshire and Howdenshire Electricity Co., the Yorkshire Electric Power Co., and other concerns.

Mr. H. W. J. Inshaw has relinquished his post on the technical staff of United Ebonite and Lorival Ltd., and has taken

up an appointment as assistant controller, Rubber and Plastic Products, on the Control Commission for Germany.

Bradford Corporation has recorded appreciation of the services of **Mr. G. Flett**, power station superintendent, who has retired after 32 years' service.

Mr. Leonard Mellor, electrical engineer of Heworth, Co. Durham, has been appointed a magistrate for the county.

The I.E.E. Devon and Cornwall Sub-centre, have elected **Mr. P. S. Grant** as chairman, with **Mr. H. C. Widlake** as vice-chairman.

Mr. Devereux has arranged to relinquish his position as chairman and managing director of High Duty Alloys Ltd., in order to devote himself to the scientific development and application of aluminium alloys over a wider commercial field than hitherto. He will retain the chairmanship of International Alloys, Ltd.

Mr. Augustus A. Chaine-Nickson has been elected chairman, and **Mr. Leonard Culton**, joint managing director, has been re-elected vice-chairman of Francis Morton and Co., Ltd.

The engagement is announced between **Mr. John M. Smith**, and **Miss Margaret Greenan**, of the administrative staff of the Mullard Radio Valve Co., Ltd.

Lord Inverforth has been appointed a director of the Direct Spanish Telegraph Co. Ltd.

The Chairman of Wallasey Electricity Committee, at the last meeting, referred in sympathetic terms to the illness of **Mr. B. T. Hawkins**, electrical engineer and manager, and to his retirement at the end of last month. The Committee placed on record appreciation of his services over a period of 24 years.

Miss Caroline Haslett has returned by air from a four-weeks' visit to the British Forces in the Middle East, where she has been lecturing to men and women in the

cities and desert camps. Everywhere intense interest was shown in housing and resettlement.

The next Mayor of Bangor will be **Coun. Ithel Williams**, chairman of the Electricity Committee.

In connection with the Distribution of Industry Act, the Board of Trade have appointed **Mr. S. A. Sadler Forster**, at present Board of Trade Controller in Newcastle, to be Director for Trading Estates. Mr. Sadler Forster will take over his post at Millbank this month.

Mr. H. Campbell, meter superintendent, at Birkenhead, has been appointed to the teaching staff of the Middlesbrough Technical College.

Dr. C. F. Goodeve, F.R.S., the director-designate of the British Iron and Steel Research Association, the formation of which was announced on Monday, has a distinguished record in the fields of both pure and applied science, and has shown himself equally at home in industry, Government service, and the laboratory. Before the war he was reader in physical chemistry at University College, London, and was for many years consultant and technical adviser to a number of big industrial companies. At the Admiralty, as senior executive covering research and development for the Navy, he took a leading part, both as scientist and as organiser of the work, in the technical discoveries which played such a leading part in defeating magnetic mines, U-boats, and other lesser but equally difficult weapons in the enemy's armoury.

Mr. E. R. Wilkinson, commercial manager of the Central Electricity Board, has accepted an invitation from the Executive Council to serve as President of the Association of Supervising Electrical Engineers for a further year. Mr. Wilkinson will deliver his Presidential address at the association's meeting on October 16 at 6.15 p.m. at the E.L.M.A. Lighting Service Bureau.



Mr. E. R. Wilkinson

As a result of the recent annual election the new Council of the Electrodepositors' Technical Society for the 1945-46 session will include Dr. S. Wernick as president, with Dr. J. R. I. Hepburn immediate past president, and Dr. H. J. T. Ellingham, Dr. G. E. Gardam, and Mr. F. L. James, as vice-presidents. Mr. F. L. James is also hon. treasurer; and Mr. S. W. Baier, deputy hon. secretary. The

Council comprises Messrs. A. E. Ensor, A. W. Hothersall, H. A. Manning, J. Perring, A. Smart. Faraday Society representatives are Dr. H. J. T. Ellingham, and Dr. A. Hickling; and ex-officio members are Messrs. H. Silman, B.Sc., R. C. Davies, and E. A. Ollard.

Mr. Frederick Colin Burstall has been appointed to the board of Automatic

Telephone and Electric Co., Ltd. Prior to joining the company in 1931 Mr. Burstall was deputy inspector general of the Egyptian State Railways, Posts and Telegraphs, to whom he was seconded from the British Post Office in 1925. Educated at Magdalen College School, Oxford, Mr. Burstall commenced his career in telecommunications with the National Telephone Co. in 1904. He is chairman of Hivac Ltd., and a director of Elexcel Ltd.



Mr. F. C. Burstall

Mr. Sargeson, overseas representative of the Automatic Telephone and Electric Co., Ltd., has just flown home on a business trip from Melbourne, where he has represented the firm's interests for 10 years. He arrived in England within three days and the journey included three prolonged halts en route. He was formerly with the G.F.O. Engineering Department, at Blackburn.

Obituary

Mr. A. G. Cutts, chief electrical engineer at the Hawarden Bridge Ironworks of John Summers and Sons Ltd., aged 59 years.

Mr. George Oliphant Craib, secretary of Midland Counties Electric Supply Co., Ltd.

Mr. Robert William Frederick Harrison, on July 15, for 24 years assistant secretary of the Royal Society, a tenure which exceeded in length that of any of his predecessors in the office.

Mr. O. S. Pratt, on July 22, after 21 years with the Mullard Radio Valve Co., Mr. Pratt was born in Durham in 1903. He was a student at Sidney Sussex College, Cambridge University, studying Natural Science, until 1924. In that year he joined the Mullard Radio Valve Co. at Balham as chemist, and in 1934 became head of the technical department. In 1937 he also took control of the experimental and final test departments, and in 1938 he became chief valve engineer. Since 1943, he had been technical adviser on valves, and was largely engaged on liaison work with Government departments and on Government committees.

News in Brief

Mass Radiography.—The Hertfordshire C.C. has agreed, subject to the sanction of the Ministry of Health, to purchase a mobile miniature mass radiography set, together with the necessary vehicle and accessories at a cost not exceeding £3 000.

Lighting in Glasgow.—Lighting is still restricted owing to fuel shortage. It is hoped that when pre-war standards have been attained, to concentrate on districts which have been less well lighted. The shortage of coal gas will delay the full lighting of gas-lit streets in the city, but electric street lighting has been almost restored to pre-war brilliance.

Power Station Extension.—The Cardiff Electricity Committee has appointed a deputation to discuss with the Central Electricity Board the question of the future extension of Roath power station.

School Lighting.—The Ossett General Purposes Committee has asked the County Education Committee to decide whether lighting of school huts should be by gas or electricity.

Telegraphic Addresses.—Cable and Wireless, Ltd., announces that Egypt and the Sudan have been added to the countries to which the use of registered telegraphic addresses is authorised, both in the address and signature of telegrams.

Leatherhead Housing Scheme.—The U.D.C. has decided that the temporary houses to be erected by the Council shall be all-electric. No charge to the Council for the necessary extension of electricity mains will, therefore, be made by the J.E.A.

American Radio Conference.—It is announced that U.S. Government officials, in conjunction with representatives of the American radio industry, are meeting under the chairmanship of Dr. Dellinger, to prepare for the Third Inter-American Radio Conference, which opens at Rio de Janeiro on September 3.

Sale of Wardens' Post Equipment.—At a meeting of the York Emergency Committee it was reported that the relay speakers had been collected from the wardens' posts and been bought by the York Relay Service at 12s. per speaker. The Clydesdale Electric Supply Co. had bought the double-bar electric fires at £1 each, the single-bar fires at 10s. each and the electric kettles at £1 2s. 6d. each.

Appointment Vacant.—Applications are invited for the post of deputy to the general manager and engineer of the Sheffield electricity department at a commencing salary of £1 100 per annum, rising to £1 400 per annum by three annual increments of £100.

Street Lighting Schemes.—The Darlington T.C. is to resume electric street lighting at Sadberge. Repairs will be necessary at a cost of £173. Fourteen electric street lamps are to be installed on the Billingham-on-Tees Council's temporary housing site and 35 on the Billingham Junction site. The cost will be about £17 each lamp.

Electric Kitchen Exhibition.—The Sheffield Electricity Committee has authorised the General Manager to make arrangements for an all-electric kitchen exhibition from November 12 to December 1 at a cost of £500.

Economy Campaign.—The Morecambe Electricity Committee has asked the Electrical Engineer, in conjunction with the Lancaster City Electrical Engineer, to prepare publicity with the object of preventing the waste of electricity.

Hospital Installations.—The Kent C.C. is to remodel the kitchen at the Dartford County Hospital, with heating and electrical work at a cost of £415.

Lighting Equipment Damage.—At a meeting of the Manchester Highways Committee the City Engineer called attention to the increase in wanton damage to street lighting equipment, pointing out that in the last three months 750 circular globes had been damaged.

Hydro-Electric Board's Plans.—At a recent meeting of the Perth and Kinross C.C., the methods and alleged secrecy of the North of Scotland Hydro-Electric Board were criticised, and the Finance Committee was given powers to take action to have the Board's plans more widely publicised.

San Paulo Railway Electrification.—Negotiations with the Brazilian Government regarding future works on the San Paulo railway have so far resulted in the application to the company of a decree whereby, for five years, a surcharge equivalent to 10 per cent. on rates is to be collected and applied to the cost of electrification of the main-line between Jundiáhy and San Paulo.

TWENTY-FIVE YEARS AGO

FROM THE ELECTRICIAN of July 30, 1920: We are glad to see that the Incorporated Municipal Electrical Association has sent a formal letter of protest to the Wrexham Corporation against the proposal to appoint a borough electrical engineer at a salary of £450 a year.

Electricity in Eire

Generation Statistics—Water Power Resources

IN introducing their eighteenth annual report and accounts for the year ended March 31, 1945, the Electricity Supply Board in Dublin state that the limited quantity and poor quality of coal available, combined with the effects of an unusually dry spring and summer, caused difficult supply conditions during the first six months. In consequence, a relatively severe rationing of all classes of consumption was inevitable throughout the summer. Later in the year the situation eased through heavy rainfall, and water flow conditions were well above average. The output of electricity, as compared with the previous year, was reduced from 443 million units to 406 million units. The hydro-electric stations generated 282 million units. The plant on the River Liffey was placed in temporary commission and contributed 15 million units—about half of its estimated full annual production.

Trading Figures

In view of the amount of the deficiency for the year ended March 31, 1944, and the indication, from the board's estimates that, with increasing expenditure on coal and maintenance, the deficiency in the present year would be substantially higher, it was decided to press again the application for sanction to an increase in prices. Sanction to an increase in charges had not been received by the close of the year. The gross revenue for the year ended March 31 was £2 477 901, as compared with £2 433 803 for the previous year; working expenditure, including depreciation, amounted to £1 850 459 (£1 705 076). Interest, repayment of advances and discharge of capital liabilities acquired with local authority undertakings totalled £951 795 (£924 847), leaving a deficit of £324 353 (£196 120). The accumulated deficiency on the electricity net revenue account was £539 539 at March 31, 1945.

Electricity sales amounted to 319 010 297, as compared with 346 938 333 units in the preceding year. The revenue from sales was £2 458 411 (£2 426 082). Although sales had decreased, the revenue was higher by reason of the alteration in prices at the close of the calendar year 1943. The depreciation accrued during the year amounted to £315 000.

The gross amount of capital invested in additional plant placed in commission during the year, including a portion of the Liffey works, was £980 616, as compared with £470 888 in the preceding year. This expenditure included £809 251 for genera-

tion, £62 291 for transmission, £94 943 for distribution, and £980 616 for equipment, transport, etc. The aggregate capital expenditure at March 31, 1945, was £18 108 332.

In 1939 the number of units generated totalled 377 637 400 as compared with 406 273 400 in 1945, while units sold in 1939 numbered 295 258 706, as compared with 319 010 297 in 1945. Revenue from sales of energy in 1939, amounted to £1 900 563, in 1945, £2 458 411. In 1939 the average price per unit generated was 1.21d. compared with 1.45d. in 1945. The average price per unit sold in 1939, 1.54d., 1945, 1.85d. The total number of consumers in 1939 was 160 382, as compared with 228 008 in 1945. An analysis of units sold for 1945 and 1944 respectively gives 116 342 524 (129 585 185) for domestic purposes; 22 023 397 (23 841 809) for general lighting; 36 338 346 (39 233 000) for general heating, cooking and water heating; 128 075 459 (135 628 493) for motive power; 8 141 638 (7 655 079) for public lighting; 4 464 851 (7 139 035) traction; and 3 624 882 (3 855 732), miscellaneous, giving a total of 319 010 297 (346 938 333).

Consequent on the limitation in sales of appliances, there was a decrease in the turnover, which amounted to £24 778, as compared with £37 643 for the previous year. The rate of gross profit on sales was 23.6 per cent. The credit taken for contracts completed and invoiced for work carried out by the consumers' installation department amounted to £62 987, as compared with £74 561 for the previous year. The rate of gross profit was 28.4 per cent. Having debited to the installations trading account overhead expenses and interest on working capital, there was a net profit of £4 457.

Rural Electrification

The report on rural electrification prepared by the board at the request of the Government was published in August, 1944, as a White Paper. Financial provision was made to enable the board to undertake the extension of electricity supply to rural areas up to a total expenditure of £5 000 000, of which half would be provided by way of State subsidy. Progress was made in planning the organisation of supply and construction.

Output statistics for all generating stations for 1945 and the corresponding figures for the preceding year give Ardacrusha, 267 399 400 kWh (274 902 800 kWh); Liffey, 15 003 200 kWh (2 271 100 kWh); Pigeon House, 122 577 800 kWh

(164 174 400 kWh); Cork, 19 700 kWh (24 900 kWh); Letterkenny, 1944, 4 200 kWh; giving a total of 404 932 100 kWh (441 677 400 kWh). The maximum daily output in kWh was 1 957 900 in 1945, compared with 1 884 000 in 1944, and the maximum load in kW was 123 700 in 1945, and 119 200 in 1944. The total output for all stations showed a decrease of 8.3 per cent. For the year, the average load was 46 225 kW, and the load factor, on the basis of units generated, was 37.4 per cent., compared with 42.2 per cent. last year. The load factor was again influenced by the continuation of "summer-time" through the winter and also by the rationing restrictions, particularly during the summer months.

A supply of 1 341 300 units was purchased in bulk at Lifford from the Electricity Board of Northern Ireland.

Power Station Additions

Contracts were placed for the supply and erection of a 12 500 kW turbo-alternator set, and two boilers of 125 000 lbs. steam per hr. for the Portarlington generating station. An investigation into the possibility of providing additional steam stations using peat as fuel was carried out in conjunction with the Turf Development Board, Ltd., and a suitable location for a second station has been tentatively decided upon. To improve the boiler capacity in the Pigeon House station a contract was entered into for the installation of two boiler units, each 100 000 lbs. steam per hr. The first of the two main generating sets in the Pollaphouca station was placed in temporary commission in December, 1944. The erection of the second set proceeded as far as the deliveries of material allowed. The Golden Falls station continued in temporary commission. Both Pollaphouca and Golden Falls stations are working with improvised switch and control gear, pending delivery of the complete equipment.

Transmission Line Extensions

The mileage of extensions and additions to the transmission and distribution lines is given as follows: l.t. overhead mains, 33.1; l.t. overhead mains (reconstructed or strengthened), 4.0; l.t. underground mains, 3.6; 5 kV underground cables, 1.07; 10 kV underground cables, 1.0; 10 kV overhead transmission lines, 4.6; and 38 kV overhead transmission lines, 24.6. A 38 kV transformer station operated at 10 kV was placed in commission at Ballymun, Dublin, and the 38 kV station at Dundalk was replaced by a larger station. Sixty-eight 10 kV transformer stations were placed in commission, and seven were retired from service. In connection with the projected development on the River Erne, work was commenced on the extension of the 30 kV network to Bundoran and Ballyshannon.

Schemes for the hydro-electric development of the Lower River Erne and the Lower River Liffey were completed, and have been prepared for submission to the Minister in accordance with the Electricity (Supply) (Amendment) Act, 1945. The board continued the investigation of water power resources and the preliminary investigations for the Torc Waterfall, Co. Kerry, and the River Lee Co. Cork, were completed during the year. Surveys were completed for the Cumberagh River, Co. Kerry, and the Clady River, Co. Donegal. Work proceeded on the collection of hydrometric data (a) on the Shannon and Upper Liffey for river control purposes, and (b) on various rivers throughout the country. Sites have been selected and gauging stations have been erected, or are in course of erection, on six additional rivers, raising the total number of rivers now under hydrometric survey to fifteen, namely Erne, Lower Liffey, Boyne, Lee, Barrow, Cumberagh, Clady, Avonmore, Caragh, Lackagh, Ballysodare, Nore, Slaney, two streams on Mangerton Mountain.

At March 31, 1945, there were 86 supply undertakers operating under permission from the board.

WATER POWER AND PULP MAKING

Canada's pulp and paper industry leads all other manufacturing industries in the Dominion in capital investment and in net value of production, states the Review of Water-power Resources of Canada, issued by the Surveys and Engineering Branch of the Dominion Water and Power Bureau, Ottawa. For the production of newsprint paper Canada has mill capacity of over 4½ million tons a year, or four times greater than any country, and 94 per cent. of the newsprint output is exported. In production of wood pulp Canada is second only to the United States.

As a mechanical installation of approximately 100 H.P. is required to produce a ton of newsprint paper per day, the importance of abundant low-cost power is evident. Water power meets this need and approximately 95 per cent. of the power used by the industry is hydraulic or hydro-electric. The industry provides the greatest individual peace-time market for the current produced by central electric stations, as it ordinarily purchases more than 40 per cent. of the output sold for industrial purposes. During the war years, this percentage has been reduced to less than 25 per cent., due to the diversion of power to munitions production. The total amount of hydro-electric energy purchased from Canadian central electric stations by pulp and paper mills during 1943, totalled 6 118 840 725 kWh, of which 25 per cent. was used for steam raising in electric boilers.

Electricity Supply

Sheffield.—The Electricity Committee is to extend mains at a cost of £3 916.

Birkenhead.—The Electricity Committee is to extend the overhead lines to Hinderton at a cost of £645.

Walsall.—The Electricity Committee is to provide supply to temporary housing estates at a cost of £3 690.

Bradford.—The Electricity Committee is to provide supply to the Eccleshill housing estate at a cost of £18 960.

Cardiff.—The Works Committee is seeking sanction to borrow £40 000 for the conversion of street gas lamps to electricity.

Ilford.—The Electricity Committee has instructed the Electrical Engineer to obtain prices for the supply of two electric and two petrol vehicles for consideration.

Sheffield.—Sanction to borrow £1 170 for two automatic voltage regulators for Blackburn Meadows power station and £25 000 for meters has been obtained.

Hackney (London).—The Electricity Committee recommends the re-equipment of six transformer units and the purchase of six new transformer units at a cost of £7 350.

Birkenhead.—Sanction to borrow £2 000 for consumers' apparatus, £1 500 for sub-station equipment, and £2 903 for mains for the temporary bungalow site has been obtained.

Llandudno.—The Electricity Committee proposes to duplicate the mains to Llandudno Junction, but is deferring the work in view of a scheme which is being considered by the North Wales Power Co.

Hull.—Sanction to borrow £46 816 for mains, plant and buildings, and £10 000 for mains and services, has been obtained by the Electricity Committee. Sanction is to be sought to borrow £151 208 for extensions.

Darlington.—The T.C. has received sanction from the Electricity Commissioners to borrow £3 465 in connection with the supply of electricity to Neasham Brick-works and £3 154 for distribution extensions.

Cardiff.—The Electricity Committee has asked the Parliamentary Committee to include in the new Parliamentary Bill, provisions empowering the Corporation to acquire the electricity undertaking of the Penarth U.D.C.

Walsall.—The Corporation Electricity Committee is to use surplus revenue of £3 000 for meters, mains and services and plant, and is seeking sanction to borrow £5 000 for mains and services, £2 000 for sub-station equipment and £5 000 for meters.

Tynemouth.—The Electricity Committee has arranged to discuss with the North Eastern Electricity Supply Co. Ltd. the question of the proposed purchase of that part of the company's undertaking within the borough at New York.

Birkenhead.—The Electricity Committee reports that Messrs. Merz and McLellan, the consultants, have submitted plans and estimates for the extension of the power station by a further 50 000 kW set at the second section, the estimated cost of this being £1 851 600.

Cardiff.—At a meeting of the Electricity Committee, the Electrical Engineer reported that he was receiving a number of applications for the hire and hire-purchase of electric cookers and water heaters, and the Committee has decided to seek authority to utilise £10 000 of surplus revenue for the purpose.

Tynemouth.—The Electricity Committee has approved a £7 574 plan for carrying out a scheme for controlling street lighting. It is proposed to carry out the first part of the plan immediately, involving the fixing of controllers to 228 hand switches, at a cost of £2 394.

Brighton.—In the course of a general review of the progress of the electricity undertaking, Mr. H. Pryce-Jones, engineer and manager, states that a most serious aspect of generating cost is the high price of fuel, which has risen from an average of 22s. 1½d. per ton delivered in the year 1938-9 to an average of 51s. 7½d. a ton for 1944-5. Nevertheless, the general trend of development is encouraging, and during the year consumers increased by 1 647.

Southwark.—Having consulted the Electricity Commissioners on the proposal for the change-over of supply by a series of three-year schemes, the Electricity Committee has decided to abandon it. The reason for this decision is that while the change-over is eminently desirable, considerable difficulties arise in the provision of the necessary labour, materials and plant, and the costs are extremely high.

Bradford.—Increased electricity charges which will produce an extra £16 000 per annum revenue have been recommended to the City Council. Rates not subject to the coal clause are to be increased by 5 per cent., bringing the cost about 25 per cent. higher than the rates in operation in 1938. Supplies to prepayment meter consumers for domestic purposes are being increased while power consumers whose rates are subject to the coal clause are to pay 10 per cent. over the 1938 rates.

Power in North Wales.—Figures referring to the increase in the use of electricity in North Wales were given at the quarterly

meeting of the North Wales and South Cheshire Joint Electricity Authority at Llandudno recently, by Mr. J. K. Paton, of the North Wales Power Co. The maximum demand on the company's system at the end of 1939 was 39 000 kW, he said, but at the end of 1943, the peak year, it had grown to no less than 87 950 kW, representing an increase of 126 per cent. The corresponding figures for the system unit were 144 000 000 for 1939 and 408 000 000 for 1943, an increase of 184 per

cent. Mr. Paton attributed the increase to the conditions brought about by the war. He also reported that for the past few months the company had been adding twenty farms a month to the list of consumers in North Wales. The authority passed a resolution supporting a bill to be introduced into Parliament, asking that the same release from the burden of rates permitted to the North of Scotland hydro-electric scheme should be granted to North Wales.

Electric Vehicle Association

Progress Made During 1944—Materials Position Still Acute

THE annual report of the Electric Vehicle Association of Great Britain, Ltd., was presented at the annual meeting on June 28, and covered the year ended December 31, 1944. The Council point out that the degree of satisfaction with which members can look back must be based on the realisation that, for the most part, it was a time of sowing rather than of reaping.

During the year, Crossley Motors joined the association and the applications of certain other concerns are under consideration. The Executive and Finance Committee agreed that it was desirable that service depots and distributors should be admitted to associate membership.

During the year the following changes in representation were made: The D.P. Battery Co., Ltd., Mr. H. S. Miller succeeding Mr. T. C. Elliott; A. E. Morrison and Sons, Ltd., Mr. P. Rochs succeeding Mr. C. F. Dickson; the Chloride Electrical Storage Co., Ltd., Mr. J. Wilkie succeeding Mr. W. H. Denby.

An advertising campaign in selected trade papers was carried out during the year under review, and as a result of this and other activities, 149 special and general inquiries were dealt with. A sum of £390 was voted by the E.D.A. towards the cost of the campaign.

What is considered to have been a very useful piece of work accomplished during the year was the production by the E.D.A. of a summary of the current battery charging tariffs of 250 supply undertakings. Subject to the approval of the committee concerned, steps to secure further information of this nature will be taken in the near future.

Arrangements were made for notes on electric vehicle progress to be published in each issue of the E.D.A. Bulletin and these appeared for the greater part of the year.

Negotiations between the association and certain battery manufacturers revealed that the latter are willing to co-operate in producing a standard type of battery for

electrics. It remains for the association to finalise its ideas as to just what the standard battery should be and the British Standards Institution has been asked to set up a panel to reconsider the standardisation of fittings and accessories for electric vehicles.

Negotiations with the Ministry of Supply for facilities to produce 500 prototype electric vehicles had to be suspended and the association had to accept the position that the present time was not propitious for the production of a national standard. However, contact with the Ministry was maintained with a view to ensuring that the materials would become available for the production as soon as possible after the cessation of hostilities in Europe. Meanwhile, the association is taking steps to enlist the interest and support of other Government departments.

Contact was established with the Automatic Transportation Co. of New York with a view to securing data and information on the production and operation of electric vehicles in the U.S.A. which will no doubt be of interest to the association. Owing to war-time restrictions on the dissemination of such information from America, such is not at present available here, but it is believed that the contact already established will produce useful results later on.

The data so far available from tests and comparisons between the performances of electric and petrol-driven delivery vehicles leaves little doubt that there is a very worth-while field for electrics in Great Britain.

The 1945 Executive and Finance Committee is made up with Sir Felix J. C. Pole, as president; Mr. A. W. Barham, as chairman; Mr. A. J. Fippard, as vice-chairman; Mr. H. M. Drake, as hon. treasurer; and Messrs. R. Birt, W. M. Good, A. E. Grimdale, J. B. Osler, J. A. Palmes, J. Parker Garner, P. Rochs, H. V. Schofield, J. W. Treace, N. T. Turner, J. Wilkie, H. G. Wilson and A. Hamilton Young.

Industrial Information

Trade Dispute.—The Liverpool Engineering and Allied Employers Association is handling a dispute affecting 100 electricians, members of the E.T.U. at the Dunlop factory, Speke. The Union claims an increase to raise the district rate to 2s. 3½d. per hour, against which the management have offered 2s. 2½d.

New Agencies.—Compound Electro Metals Ltd., announce that they have appointed as their agents A. Johnson and Co. (London) Ltd., Royal Exchange Buildings, Glasgow, C.1 (Glasgow Central 2251), and Mr. C. J. Reeves, 58, Walsall Road, Four Oaks, Sutton Coldfield, Birmingham (Four Oaks 227).

Approval of Permitted Prices.—The Central Price Regulation Committee have approved the following prices exclusive of purchase tax for the "Hounslow Chalex" electric fires, manufactured by S. Hounslow and Co.: No. 1044 bar type, manufacturers' selling price 41s. 7d., wholesale selling price 52s., retail selling price 69s. 4d.; No. 1044 projector type, 46s. 5d., 58s., 77s. 4d., respectively; No. 1043 bar type, 48s., 60s., 80s.; and No. 1043 projector type, 52s. 10d., 66s., 88s.

Coil Winding Plant.—Messrs. Frank Whitelegg, 90, Robin Hood Lane, Sutton, Surrey, have issued List GNA, illustrating the various machines manufactured for the wire trade.

Siemens Magazine.—The June/July issue includes many personal notes of general interest to the industry, while the current issue of the Engineering Supplement includes an article by Mr. J. L. Greatorex on the Localisation of Faults in Underground Cables.

Spitfire Electric Iron.—The Central Price Regulation Committee have approved the following prices exclusive of purchase tax for the Spitfire electric iron manufactured by C. P. Charlton, 25, Lavender Road, Leicester: Manufacturer's price, 12s. 5d., wholesale price, 15s. 6d., retail price, 20s. 8d.

Census of Distribution Committee.—The recently appointed Census of Distribution Committee invite interested national trade associations to offer written evidence on the possible uses of a census. Firms or individuals should express their views through their national organisations and not direct to the Committee. The secretary of the Committee, is Mr. R. P. Hicklin, Board of Trade, Romney House East, Tufton Street, London, S.W.1.

A.T.S. and Domestic Appliances.—On July 11, a party of A.T.S. officers and other ranks from a Midland Army Educational Centre, visited an exhibition of

domestic appliances specially arranged for this purpose at the Paradise Street showrooms of the Birmingham electric supply department. The visitors were keenly interested in the various appliances shown, and expressed appreciation of the fact that they were permitted to walk around and ask questions. On the following day,



Members of the A.T.S. examining domestic appliances at the Paradise Street showrooms of Birmingham electric supply department

July 12, a party of A.T.S. from an Army Domestic Science School near Birmingham, visited the exhibition and again the girls were very interested.

Aluminium Alloys.—Birmabright Ltd., have opened a marine department at the London offices of the Birmid Industries Group—20, Berkeley Square, W.1—with the object of providing information and assistance to naval architects and marine engineers interested in aluminum alloy as a material for marine construction. The department will be under the superintendence of Lt. Commdr. F. Merrett, R.N.R. Retd. Mr. T. C. Scovell, has been appointed as naval architect.

Copper, Zinc and Nickel.—The Ministry of Supply announce that in the case of Service and home civil orders it is no longer necessary to submit schedules of orders to cover applications for licences for copper, zinc and nickel. Instead, each application must be accompanied by a signed statement to the effect that the quantity requested is needed to cover orders, and that in the case of applications for virgin metal full allowance has been made for expected intake of scrap. In the case of export orders, there is no change in the existing procedure. Inquiries should be made to the Joint Controllers, Non-Ferrous Metals Control, Grand Hotel, Rugby.

Trading with the Enemy.—The Board of Trade have made the Trading with the Enemy (Custodian) (No. 2) Order, 1945 (S.R. & O. 1945, No. 887, price 1d.), under which all debts due to persons resident or

carrying on business in areas under the sovereignty of a Power with whom His Majesty is at war are vested in the Custodian of Enemy Property. Accordingly, moneys due to such persons will continue to be under the control of the Custodian even if the creditors leave enemy territory to take up residence in neutral countries.

Middle East Export Modifications.—The Board of Trade announce that electrical or turbine driven laboratory centrifuges, valued at from £15, and vacuum pumps of one micron or higher vacuum, should now be deleted from the list of goods subject to M.E.S.C. procedure.

Faulty Flexible Fatality.—The electrocution of a young girl, through a faulty flexible, caused the Coroner, Mr. Ogden, at the inquest, at Burnley, on July 24, to stress the importance of skilled wiring. Two points had been jointed with insulating tape. A neighbour found a length of flexible between a clock and its socket entangled about the girl's neck. There was a flag-stone floor. Mr. W. Westall, installation inspector of the Burnley electricity department, said the wiring had been jointed in an unskilled manner. There was an attempt to insulate it with a rubber band, which had slipped out of position. A person contacting such faulty joints would receive a shock. The connection would not have been approved by his department. The police said the girl was apparently washing the floor when she came in contact with the bare wire. The Coroner said householders were well advised to give serious attention to electric wires attached to clocks and radio sets. The wet floor had accentuated the girl's danger. Mr. Nelson said the Corporation would inspect any installation free of charge.

New Zealand Import Licensing.—Ninth Period. The Trade Commissioner at Wellington has reported amendments to the schedule of import restrictions to the effect that rheostats and resistances, other than those of the following types, may now be imported within the allocation for parts for domestic radio sets:—(a) Fixed carbon resistors of $\frac{1}{2}$ W to 1 W capacity. (b) Wire-wound resistances of fixed and/or tappable types of $\frac{1}{2}$ W to 500 W inclusive.

Import Duties Resumed.—As a result of inquiries, importers are reminded of the provisions of two Orders recently made by the Treasury; the Import Duties (Exemptions) (No. 3) Order, 1945, and the Additional Import Duties (No. 2) Order, 1945. These Orders are published by the Stationery Office as Statutory Rules and Orders No. 692 and No. 696, and came into operation on July 1, 1945. The Orders do not involve any question of tariff policy but carry out the intention announced by the Chancellor in his Budget statement of April 24,

last, of restoring to their pre-war level the duties on goods which during the war have been predominantly imported for Government purposes and exempted from duty as a matter of administrative convenience. For complete details of the goods affected reference should be made to the Orders themselves. But it may be mentioned that among the important classes of goods on which the pre-war rates of duty are restored, are electrical apparatus and appliances of certain types.

New Company.—A new organisation, known as Kirk Electrical Industries, Ltd., of 16-24, Fulford Street, Bermondsey, London, S.E., is announced. The company is associated with Samuel Russell and Co., Ltd. (iron foundries), of Walsall, and Kirk and Co. (Tubes), Ltd., of London. The scope of the new company is electrical factoring and wholesaling. The chairman of the company is Mr. A. K. Kirk, and the managing director is Mr. J. P. Ryan. The company will, in the first instance, operate in London and the Home Counties, but later, branches in selected provincial centres will be established.

Electrical Machinery Trade Alliance.—A company limited by guarantee without share capital has been registered under the initials A.E.M.T. Its purpose is to foster and protect the trade interests of electrical machinery traders. Membership fee on election is ten guineas and annual subscription ten guineas. Subscribers are:—Messrs. R. N. Ainsworth (Manchester), L. Bowers (Leeds), M. G. Thomson (Liverpool), P. W. Kovach (Altrincham), W. E. Lawton (London, N.3), H. W. Cole (Tadworth), E. H. Crook (Eastcote), R. C. Hull (London, N.), E. J. Ferguson (Woking), F. R. Redington-Leech (London, S.E.), R. H. Gill (Leicester), G. R. Holding (Ealing), A. H. Blackman (Ilford), H. F. K. Dearlove (Bishops Cleeve), P. G. Broom (Isleworth), and L. A. Snape (Birmingham). The registered office is at 11, Argyll Street, London, W.1.

Control of Building.—The Electricity Commissioners have drawn attention to the provisions of the Control of Building Operations (No. 5) Order, 1945, S.R. and O., 1945, No. 802, made by the Minister of Works under Regulation 56A of the Defence (General) Regulations, 1939, the general effect of which is to limit as from August 1, the carrying out for certain purposes of works exceeding a cost of £10. The new Order is applicable, *inter alia*, to building and civil engineering works undertaken by statutory undertakers, but does not affect the present position with regard to the repair and maintenance of existing building and civil engineering works. In the application of the Order, the Commissioners have decided to authorise all undertakers and authorised

undertakers within the meaning of the Electricity (Supply) Acts, 1882 to 1936, to carry out the construction, reconstruction or alteration of building and civil engineering works costing more than £10 but not exceeding £500.

Production and Engineering Bulletin.—The current issue of this publication by the Ministry of Labour includes articles dealing with ventilation, hand and power hoists motion study and observations on fine measurements.

Ironmongers and Electrical Trading.—In the annual report of the Electrical Section of the National Federation of Ironmongers, it is stated, "Distribution arrangements in the electrical industry have never developed in a manner likely to produce an efficient retail trade. In general, margins on electrical goods are inadequate except in the case of supply companies or local authorities which are able to finance their retail business out of revenue derived from the sale of current, and in the case of electrical contractors with whom retailing is a sideline and who in many cases make little attempt to provide adequate display facilities for the public."

"In addition, the practice of the supply companies to hire electrical appliances at wholly uneconomic rates for the purpose of stimulating the demand has further militated against efficient retailing."

"The electrical manufacturers and wholesalers appear to have entirely failed to perceive the serious problem with which they will ultimately be confronted and it must in fairness be admitted that the retail side of the trade has not so far shown any very realistic grasp of the situation."

"Not only do electrical contractors appear to refuse to believe that there are any parties other than themselves interested in retail distribution, but unfortunately a large proportion of them are not interested in retailing beyond enjoying the convenience of sending their clients to a manufacturers' showroom. This results in unfortunate practices such as offering their clients discounts off fittings and appliances as an incentive to get the wiring order, or cutting their estimates for wiring, knowing that they can recover easy profit on fittings, etc., without incurring any initial outlay."

"It is greatly to be feared that unless a more progressive attitude is developed by the contracting side of the electrical industry the day is not far off when the supply companies and local authorities will be almost the only suppliers of domestic appliances and apparatus and the role of the contractor will be limited to the wiring of new buildings, together with such repair work as he can obtain in competition with the supply companies and local authorities."

Contracts Open

WE give below the latest information regarding contracts for which tenders are invited. In the case of overseas contracts, particulars are to be had from the Department of Overseas Trade, Millbank, London, S.W.1 (corner Horseferry Road), unless otherwise stated.

Belfast Electricity Department, August 3.—Supply, delivery and erection of (a) carbon dioxide extinguishing equipments for electrical sub-stations (Spec. G. 49), and (b) replating regulating cells of storage battery (Spec. G. 51). Forms of tender from the City Electrical Engineer and General Manager, East Bridge Street, Belfast.

Whittingham Mental Hospital, August 3.—Supply and erection of a generating plant and other electrical gear. Form of tender from Mr. W. A. Higgs, Clerk and Steward.

Swansea B.C., August 4.—Construction of an electrically equipped pumping station at Morrision Park. Specification from Mr. T. Price, Guildhall, Swansea; deposit £5 5s.

Manchester City Council, August 11.—Supply and delivery of overhead equip-

ment materials for trolley-bus operation. Specifications from the General Manager, Transport Department, Manchester, 1.

Chichester City Council, August 17.—Manufacture, supply and laying of approximately 20 miles of 11 kV and control cables and accessories. Specifications from Messrs. Mackness and Shipley, Parliament Mansions, Abbey Orchard Street, London, S.W.1; deposit, £2 2s.

Sheffield Electricity Department, August 27.—Supply and delivery of three 1,000 kVA 11,200/3,300 V, 3-phase, 50 cycle transformers. Specification: Mr. John R. Struthers, Commercial Street, Sheffield, 1; deposit, £2 2s.

Glasgow Lighting Department, August 31.—Supply of 500 lanterns for 300/1,500 W electric lamps. Specifications from the Lighting Department, 20, Trongate, C.1.

Overseas

City of East London (South Africa), August 20.—Supply and delivery of one electric-driven air compressor and one portable internal combustion-engine driven compressor. Specification from Davis and Soper, Ltd., 54, St. Mary Axe, London, E.C.3.

Company News

PROJECTILE AND ENGINEERING CO. LTD.—Intm. div. 7½% (same).

DERMATINE CO. LTD.—Fst. and fin. div. 30% (same), and bonus of 10% (same).

PACIFIC GAS AND ELECTRIC.—Qtrly. 30 cts. per sh. on com. pd. July 16.

ELECTROLUX CORPN. (of America).—Intm. 25 cents per sh. payable Sept. 25, to holders reg. Aug. 4.

ROTHERMEL CORPORATION.—Permission to deal in 1 798 960 ls. shs. has been granted.

GENERAL HYDRAULIC POWER.—No intm. on ord. (no intm. was pd., prev. yr. Fst. and fin. was 5%).

ELECTRIC DEVELOPMENT AND SECURITIES TRUST (a subsid. of General Electric Co.)—Rev. to Mar. 31, £80 787, brot. in £17 512, to div. 8%, tax free, fwd. £18 299.

ENGINEERING AND LIGHTING EQUIPMENT CO. LTD.—Fin. div. on ord. for yr. to Mar. 31, 5% (6%), less tax, mkg. 8% (10%). Prelim. fig. of net pft. £21 356 (£21 454).

ELECTRICAL DISTRIBUTION OF YORKSHIRE LTD.—Co. has acquired a further 20 000 £1 ord. shs. in Mid.-Cumberland Electricity Co.

TELEGRAPH CONSTRUCTION AND MAINTENANCE CO. LTD.—Co. is offering 227 212 £1 shs. at 50s. each in the proportion of one for every two held.

RICHARDSONS WESTGARTH AND CO. LTD.—Div. for yr. to Mar. 31, 8%, less tax (same). Net pft. is stated as £62 880 (£63 396), after taxatn. and deprecn.

FISHER AND LUDLOW.—Fst. and fin. on ord. 15% (same). Pft. to Mar. 31, after deprecn. and other charges, £112 528 (£108 210).

BRITISH TIMKEN LTD.—Fst. and fin. 15% less tax (same). Net pft. for 1944 after deprecn., £122 624 trdg. pft. £177 999, to deprecn. £34 614, int. £7 518; pft. £135 867, tax provn. £75 000; net pft. £60 867.

BELLISS AND MORCOM.—Trdg., etc., pft. to Mar. 31 (after tax) £69 352 (68 803). To dirs'. fees £1 300 (same), deprecn. £15 328 (£14 327), war damage £1 250 (£2 290), leavg. net pft. £51 474 (£50 886), pref. div. £3 206 (same), ord. div. 14% £44 805 (same), fwd. £166 958 (£160 290).

KALGOORLIE ELECTRIC POWER AND LIGHTING CORPN.—Pft. 1944 £25 500 (£31 578). To deprecn. £16 000 (same), U.K. tax £2 791 (£6 392), after creditg. £1 913 adjustmts. prev. yrs., fst. and fin. 5% (same), less tax at 5s. £7 031 net (£9 375 gross), fwd. £9 405 (£9 727).

DAVY AND UNITED ENGINEERING CO. LTD.—Div. on ord. 7½%, less tax (same). Trdg. pft. for yr. to Mar. 31, £167 436 (£152 148). Dirs'. fees take £3 400 (£3 790), deprecn.

£16 452 (£14 186), taxatn. £93 782 (£71 387) and defd. repairs £5 000 (£10 000), leaving net pft. of £48 802 (£52 785).

A. C. COSSOR LTD.—Drs. announce net pft. for yr. to Mar. 31, of £134 430 (£102 606), after providg. for inc.-tax on all pfts., representg. an increase of 31%. In additn., a div. of £45 000, free of tax, has bn. received from a subsid. co. in respect of 3 yrs. to Mar. 31, 1945. Dirs. are recommendg. fin. div. on ord. 7%, tax free, together with bonus of 2½%, tax free (nil), mkg. 12½% (10%).

CROSSLEY-PREMIER ENGINES LTD.—Pft. for yr. to Apl. 30, inclgd. adjustmmts. in respect of contracts completed in prev. years, after all exes. (inclgd. £9 853 (£8 500) for deprecn.) £46 015 (£35 450). Deduct inc.-tax £25 000 (£19 500), N.D.C. £2 400 (£1 646), leavg. £18 615 (£14 304). To gen. res. (mkg. £28 500) £6 999 (£3 000), staff supern. res. (mkg. £4 500) £500 (same), div. 5½% cum. pref. (pd.) £4 125 (same), 10% (same) ord. £6 250, fwd. £10 188 (£9 447).

Company Meetings

GARRARD ENGINEERING AND MANUFACTURING CO., LTD.—The annual meeting was held at Swindon on July 11, Mr. P. J. Goldberg, the chairman and joint managing director, presiding. In the statement circulated with the accounts, the chairman said the company's ability to manufacture precision instruments and carry out precision work on a production basis led to contracts being placed on behalf of all the Services for a very wide variety of instruments and units. It was interesting to know that some 84 different types of instruments and assemblies had been tooled up and produced. Their production to date totalled over 7 500 000 units.

FRANCO SIGNS LTD.—At the annual meeting held in London on July 11, Mr. J. F. Mallabar, the chairman, said the results for the year were extremely satisfactory. *Prima facie* one would not expect that the activities of a sign company could very easily be diverted to war purposes, but in fact so great a variety of electrical and manufacturing work had to be carried out in the normal course of the company's sign business before the war, that they were able to utilise the knowledge and experience of their employees on work which, although in a way new to them, was nevertheless well within their capacity.

ELECTRIC CONSTRUCTION CO., LTD.—The annual meeting was held at Wolverhampton on July 17. In the absence through

illness of the chairman, Mr. G. W. Spencer Haves, the managing director, Mr. W. M. Furniss, presided and read the chairman's report. In this, he said the slight decrease in profit was due largely to Government costing which had cut down the percentage of profit on those Government contracts that consumed the major proportion of production. In spite of this the statement of accounts was still a very impressive document. As regards the future, he thought the prospects were good, but Government orders had already begun to decrease, and it was not possible to make an immediate return to normal peace-time production.

REVO ELECTRIC CO., LTD.—In the course of his speech at the annual meeting held at Dudley on July 18, Mr. Bertram Silcock, the chairman, said the increased profits were due to increased production, and the directors considered the results satisfactory. If the directors' recommendations were agreed to the company's reserves would total £285 000 and in conjunction with the balance of profit carried forward would amount to more than the issued capital. They were actively engaged in the production and supply of electric cookers for the Government's emergency housing scheme, in addition to cookers supplied to meet current rehabilitation problems. As regards street lighting and industrial equipment, while the departments were working to capacity on priority production, they would be ready to meet the heavy demands that would be made on them as and when Government control eased and further labour was available. On the whole the immediate post-war outlook for electrical engineering was favourable, and there was much work to be done. But the gradual cessation of war contracts and the switch over to peace production necessitated the installation of fresh plant and equipment, and a fresh lay-out in the factory, involving the overhauling and reinstallation of laid-up plant in place of plant installed for war purposes. These necessary preliminaries attracted, of course, overhead charges and constituted an initial expense against post-war earnings. They had, however, a modern factory, well equipped, and a healthy order book, and with their experienced management they should participate in any prosperity attained by the electrical industry.

ULTRA ELECTRIC (HOLDINGS).—In the course of his address at the annual meeting held in London on July 25, Mr. E. E. Rosen, the chairman, said the net profit, after making full provision for taxation and contingencies, was £20 649, which, in all the circumstances, the directors considered to be satisfactory. During the past

few months it had been possible to devote some attention to a resumption of the company's normal business, and it was hoped to have Ultra products on the market again before the end of 1945. The proposed dividend of 10 per cent., less tax, was approved.

EDGAR ALLEN AND CO. LTD.—In the course of his address at the annual meeting, held at Sheffield, on July 27, Mr. W. H. Higginbotham, the chairman, said they were now beginning to experience the consequences of the change-over from conditions of maximum demand on a war-time basis, with prices controlled by one or other method, to those of a period of transition from war to peace; and while there was no cause for anxiety on account of the fall in earnings (especially since so large a proportion of these was absorbed by taxation) they might be assured that the board was fully alive to the difficulties of this transitional period.

GENERAL ELECTRIC CO. LTD.—The annual meeting was held in London on July 26, Sir Harry Railing, the chairman, presided. Dealing with the year's results, the chairman said the profit and loss account showed that the profit, after providing for excess profits tax and for contingencies, amounted to £1 880 697, as compared with £1 812 409 last year, an increase of £68 288. The great volume of war work for which contracts were placed with the company necessitated largely increased production facilities. Many new works and shadow factories had been built or acquired, while specialised Government factories were entrusted to the G.E.C. for management on behalf of various Ministries. The increase in radiolocation and radio production gave an example of the scope of their extensions, for instead of the seven parent factories in operation in 1939, there were no less than 27 separate individual plants in 1944. Well over 100 000 of their telephone and radio sets had been used by the Navy, Army and the Air Force. More than 25 000 generators had gone to the Ministry of Supply and the Air Ministry. Small electrical machines and motor-driven appliances for the fighting Services totalled over three quarters of a million. The company's foremost position in lamp manufacture and the art of illumination needed no emphasis. For the Admiralty alone more than 300 types of lamps had been supplied, while those designed and produced for specific service purposes were of almost bewildering variety. The output of cable and wire from their factories exceeded 1 100 000 000 core yards, of which 100 000 000 yards were for field telephones. Of great interest was their contribution of 2 000 000 yards of very high frequency cable.

Finally, the task of the G.E.C. was not

limited to what they produced themselves. They helped the Government as well on fundamental research which led to developments of a far-reaching character for the whole country. Examples were the determination of permissible star-lighting during the war, the study of photometric proper-

ties of the atmosphere from ground level to 30 000 ft., and the development of the highest power searchlight in the world so far constructed of 1 000 000 000 candle-power, the study of heavy alloys and light alloys, of plastics and glass, of refractories and crystals.

Commercial Information

Mortgages and Charges

NOTE.—The Companies Act of 1908 provides that every Mortgage or Charge shall be registered within 21 days after its creation, and that every company shall, in its annual summary, specify the total amount of debt due from it in respect of mortgages or charges. The following mortgages and charges have been registered. The total debt prior to the present creation, as shown in the annual summary, is given—marked with an *—followed by the date of the summary, but such total may have been reduced.

VOLTA ELECTRIC LTD., London, E.C.—July 7, £10 000 charge, to Industrial Finance and Investment Corp'n. Ltd.; charged on land and Park Works, Barnack Road, Stamford.

D. B. MACKIE AND SWAFFIELD LTD., London, W., elec. and motor eng'rs., etc.—July 13, £7 000 (not ex.) charge, to Lloyds Bank Ltd.; charged on moneys under contracts; also deb., to Lloyds Bank Ltd. securing all moneys due or to become due to the Bank; general charge.

CHAS. WRIGHT LTD. (formerly EDGWARE ENGINEERS LTD.), London, E.C.—July 1, mort. and charge, to Barclays Bank Ltd. (supplemental to mort. and charge dated Sept. 3, 1935), securing (a) all moneys due or to become due to the bank from Amalgamated Roadstone Corp'n. Ltd. as provided by principal deed, and (b) all moneys due or to become due to the bank from the co.; charged on the co.'s book and other debts, present and future. *Nil. Dec. 31, 1944.

County Court Judgments

NOTE.—The publication of extracts from the "Registry of County Court Judgments" does not imply inability to pay on the part of the persons named. Many of the judgments may have been settled between the parties or paid. Registered judgments are not necessarily for debts. They may be actions. But the Registry makes no distinction. Judgments are not returned to the Registry if satisfied in the Court books within 21 days.

JONES, Geo. W., 49, Salisbury Terrace, Greenbank, Darlington, electrician. £13 12s. 6d. June 19.

PRINCES (firm), Widnes Road, Widnes, electrical engineers. £19 8s. 8d. June 13.

MAURICE HILLIER (Tdg. as MOREBURNS RADIO), 486, Kingsland Road, London, E.8, radio dealer. £17 8s. 6d. June 7.

LLOYD DAVIDSON AND CO., LTD., R/O., 18, St. James Street, Nottingham, electric appliance specialists. £17 16s. 8d. June 12.

GEO. JONES, 85a Park Road, Bloxwich, radio repairer. £10 9s. 9d. May 31.

G. C. BROOKSBANK, 37, Station Road, Crossgates, Leeds, electrician. £21 12s. 6d. June 13.

ALBT. A. HAYCOCK, 69, Lingwell Lane, Lofthouse, Wakefield, radio engr. £27 12s. 9d. May 15.

Bankruptcy Information

BOOT, Cyril Henry, 39, St. Cuthberts Street, Wells, formerly residing and carrying on business at 29, Lyndon Road, Rubery, near Bromsgrove, radio and electrical engineer. Date of public examination, Sept. 25, 1945, 2 p.m., the New City Court, Birdport, Worcester.

Notice of Intended Dividend

LAMBOURNE, George Perry, High Street, Westerham, Kent, wireless dealer. Claims to be sent by Aug. 11, 1945, to the Trustee, Mr. Alfred Clarke Williams, 8, Old Steine, Brighton 1, Official Receiver.

Metal Prices

| | Monday, July 30. | |
|--|------------------------|-----------|
| | Price. | Inc. Dec. |
| Copper— | | |
| Best Selected (nom.) per ton | £60 10 0 | — |
| Electro Wirebars | £62 0 0 | — |
| H.C. Wires, basis ... per lb. | 9 $\frac{7}{8}$ d. | — |
| Sheet | 11 $\frac{7}{8}$ d. | — |
| Phosphor Bronze— | | |
| Wire(Telephone)basis .. | 1s. 0 $\frac{7}{8}$ d. | — |
| Brass (60/40)— | | |
| Rod, basis | — | — |
| Sheet " | — | — |
| Wire " | 11 $\frac{1}{2}$ d. | — |
| Iron and Steel— | | |
| Pig Iron (E. Coast Hematite No. 1)... per ton | £7 13 6 | — |
| Galvanised Steel Wire (Cable Armouring) basis 0.104 in. | £28 5 0 | — |
| Mild Steel Tape (Cable Armouring) basis 0.04 in. | £20 0 0 | — |
| Galvanised Steel Wire No. 8 S.W.G. | £26 0 0 | — |
| Lead Pig— | | |
| English | £31 10 0 | — |
| Foreign or Colonial .. | £30 0 0 | — |
| Tin— | | |
| Ingot (minimum of 99.9% purity) | £303 10 0 | — |
| Wire, basis... .. per lb. | 3s. 10d. | — |
| Aluminium Ingots ... per ton | £85 0 0 | — |
| Spelter... .. | £31 5 0 | — |
| Mercury (spot) Ware- house per bott. | £69 15 0 | — |

Prices of galvanised steel wire and steel tape supplied by the C.M.A. Other metal prices by B.I. Cables Ltd.

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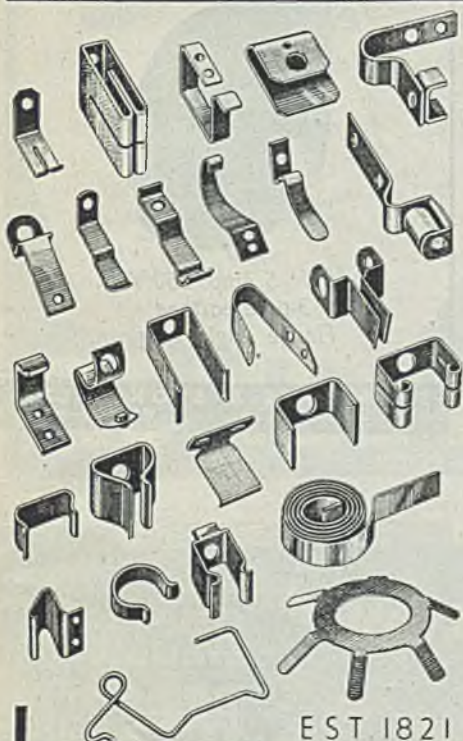
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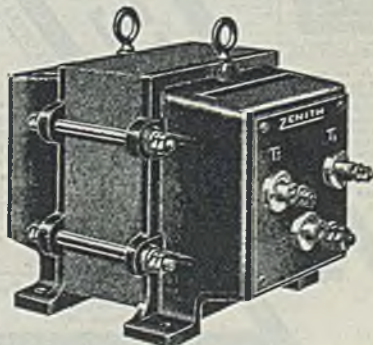
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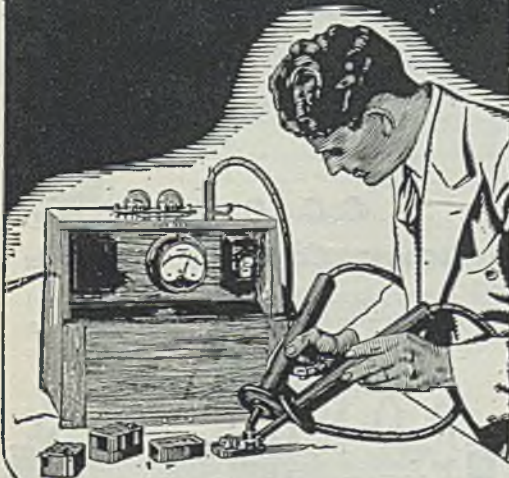
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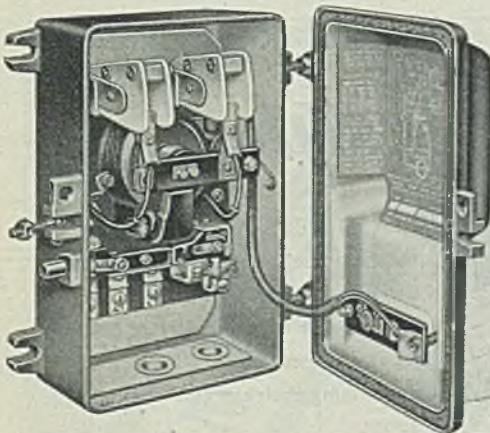
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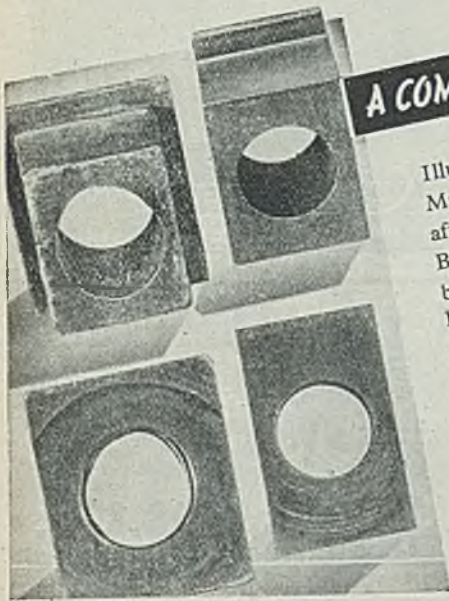
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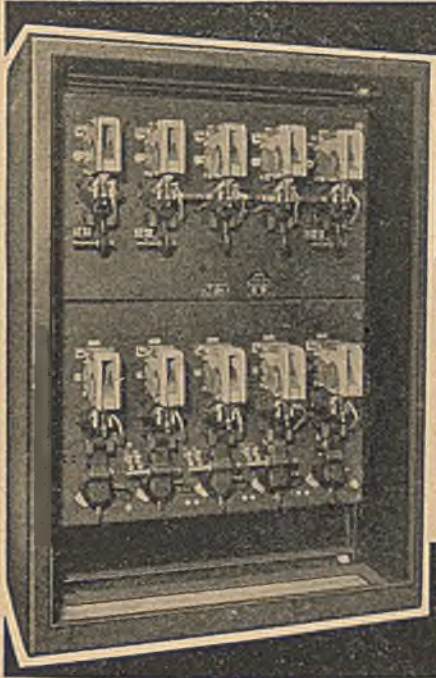
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