

376

The POWER

Vol - 1

no - 1

October - 1950

JL
C-6 m 211 NSO
NSO 1.1
79907

The POWER

A MONTHLY JOURNAL

EDITOR — P. S. PILLAI, M.A

Vol. I

No. I

OCTOBER, 1950.

Single Copy. As. 8.

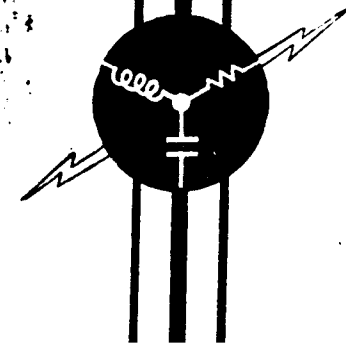
Annual Subs. Rs. 6.

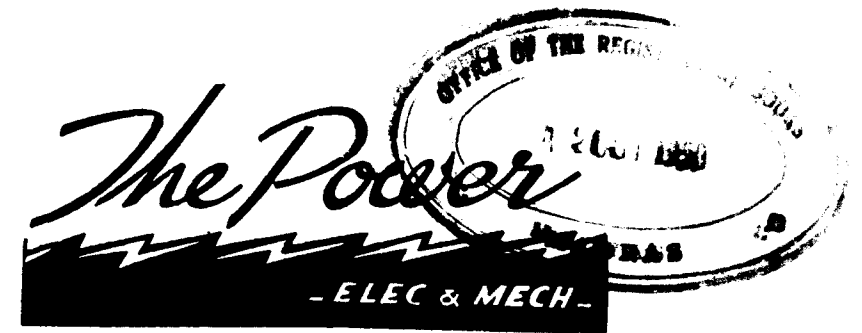
✓
158
4-50 376



1. Editorial
2. Special Articles
3. Consumer's Companion
4. Trends of Trade
5. Books and Brochures
6. News and Notes
7. Here and There

★ ★ ★





The monthly journal of the Madras Electric Trades Association.

**Published
every month.**

**Single Copy, As. 8.
Annual Subs. Rs. 6.**

**"Praise be to the Power,
The Power, People need,
In every Farm and Factory,
For all homes and hearths"**

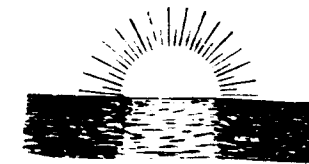
Modern age is Electrical age. Electricity is harnessed to brighten our lives, to run the farm and the factory. In the remotest part in the country-side which has not seen the spread of electrical power, mechanical power is used. And our progress and prosperity depend on power and power problems.

To the trader, the 'Power' establishes new connections, finds out fresh resources of demand and supply and creates more business both at home and abroad.

To the technician who is the back-bone of the trade the 'Power' deals with many new problems and new types of equipment.

To the common man, the consumer of electrical or mechanical energy, and to the Industrialist on whom the economy of the country depends, the fundamental principles of the usage of power in non-technical language are made available through the 'Power'.

The 'Power' pledges itself to the service of the community. There is something for every one to read, to remember and be benefited.



== "THE POWER" ==

Advertisement Tariff.

RATES PER INSERTION.

Full Page Inner	Rs.	30	0	0
Half Page Inner	Rs.	20	0	0
Quarter Page Inner	Rs.	10	0	0

COVER PAGES.

Second and Third	Rs.	50	0	0
Fourth Page	Rs.	60	0	0

For contract of 12 insertions and over, a rebate of 10% is allowed.

Last date for receipt of advertisement copy—A fortnight before the date of publication.

Colour advertisements :—Special rates.

CONDITIONS OF ADVERTISEMENTS :—

1. Instructions and copies of advertisements should reach the publisher at least 2 weeks before date of publication.
2. The management reserve the right to decline any advertisement without assigning reasons thereof.
3. No deductions shall be made from advertisement bills for alleged defective insertions.
4. Non-receipt of voucher copies shall not be held to be a sufficient cause for withholding payment.
5. No responsibility can be taken for blocks broken or damaged in the process of printing.
6. Specific instructions should be given by the party regarding their advertisements.
7. Advertisements less than a quarter page are not accepted.
8. All advertisement charges are to be paid in advance except in the case of approved customers when bills are rendered immediately after publication. The bills should be paid within a week of publication.

—An organ of power progress and advertising medium—



JL

C6m 211, NSO

NSO-101



Telegram : "ISWAR"

Telephone : 3711.

THE MODERN ELECTRIC CO.,

Electrical & Machinery Dealers,

301, LINGHI CHETTY STREET, MADRAS. 1.

BRANCHES :-

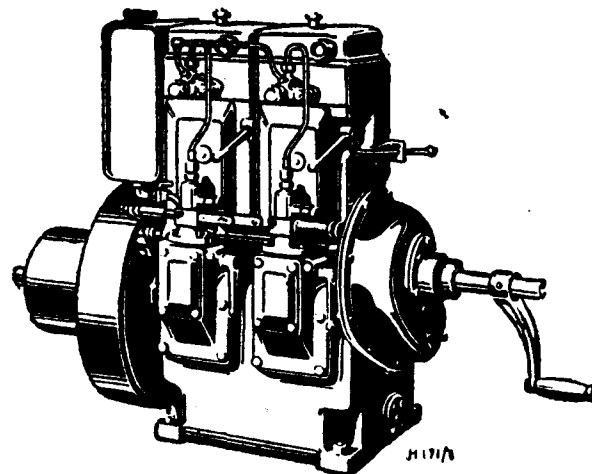
134, Dindigul Road, MADURA.

14/5, Nawab Hakim Road, COIMBATORE.

DISTRIBUTORS : MADURA DISTRICT FOR



OIL ENGINE.



STOCKISTS OF :

Oil Engines, Electrical Motors, Electrical Drilling Machines, Electrical Accessories, Agricultural Pumpsets, Cane Crushers, Rice Mill Stores, Cream Separators Etc.,

Phone : 3096.

P. O. Box 293,

Grams : "HIGHSPEED"

MODI and MODI

11, LINGHI CHETTY STREET,
MADRAS. 1.

BRANCHES:

COIMBATORE—MADURA—VIJAYAWADA—MADRAS. P. T.,

IMPORTERS & AGENTS

Electrical Accessories, Motors, Generators, Switch Boards,
H. T. Insulators, Wires, Cables, Meters, Measuring Instruments Etc.,

CAN QUOTE FOR

Anything in Electrical or Mechanical Engineering Lines.

SHANKAR TRADING CO.,

38, LINGHI CHETTY STREET,

G. T., MADRAS.

DEALERS IN OIL ENGINES, PUMPS

ELECTRICAL MOTORS ETC.,

DISTRIBUTORS FOR

PETTER DIESEL OIL ENGINE FOR
CHENGLEPUT District.

Messages.

M. BHAKTAVATSALAM,
Minister for Public Works,
Govt. of Madras.

Fort St. George, Madras.
6th October, 1950.

It is a great pleasure to know that the Madras Electric Trades Association are publishing a monthly journal "THE POWER". In this Modern Age when we have to keep pace with the outside world in the advancement and betterment of the living conditions in our country and that in particular South India where our Government have big plans for the development of rural areas in Electrical and Mechanical aspects. I hope the journal would co-operate with the Government in its educative and constructive programme to achieve its objects with success. I wish the journal every success and popularity in its endeavour.

(Sd.) M. Bhaktavatsalam.

C. PERUMALSAMI REDDI,
Minister for Industries.

Fort St. George, Madras.
6th October, 1950.

We live in the dynamic age of technics wrought by Power. The domain of science vastly extending with new inventions and discoveries increases greatly man's reliance on Power and reduces gradually his dependence on Nature. India is far behind in this endeavour but it is heartening to note the rapid strides being made in recent times.

I greet the "POWER" the monthly journal of the Madras Electric Trades Association which is issuing shortly with a view to work for our progress and prosperity. May this journal serve the community popularising the manifold uses of Power.

(Sd.) C. Perumalsami Reddi.

Sri. G. SUNDARAM,
Chief Engineer for Electricity,
Government Electricity Department,
157, Mount Road, Madras.

Madras, 4th October, 1950.

To
The Editor,
"THE POWER", Madras.

Dear Sir,

I am glad to hear that the Madras Electric Trades Association are to have a journal of their own entitled "THE POWER". The electrical trades in this State have a bright future in view of the extensive programme of electrification both rural and urban undertaken by the Government. I wish the new journal every success in its endeavour to serve the power industry.

Yours sincerely,
(Sd.) G. Sundaram.

The South Madras Electric Supply Corporation Limited.

TIRUCHIRAPALLI,
18th September, 1950.

I welcome the proposal on the part of the Madras Electric Trades Association to publish a monthly journal called "**THE POWER**".

Electric power is of the utmost importance particularly to a poor country like India and it is destined to play an increasingly significant role in increasing both our agricultural and industrial production.

Your efforts to popularise electricity amongst all sections of the population and the Trade by the publication of this journal constitute, in my opinion, a very well-directed endeavour.

(Sd) V. SESHASAYEE.

Dr. S. G. Manavala Ramanujam,
Vice-Chancellor,
Annamalai University,

Annamalainagar.
22nd September, 1950.

I gladly take this opportunity to contribute a message and wish this new venture happy and prosperous future.

It is in the fitness of things that when through the foresightedness of our central and the various State Governments multi-purpose power projects like Damodar Valley, Tungabhadra, Hirakud, Nangal and a host of others are already under way, this technical journal has appeared on the scene and filled a great void in the Technical literature of this vast country of ours.

The consumption of Electrical energy in any country is truly an index of its industrial progress and the per capita consumption is a measure of the material prosperity of its people. At present negligible section of rural population-only 1293 villages or 0.23 per cent of the total number of 5 lakhs and odd villages is now enjoying the benefits of electric supply. I hope that the problem of rural electrification will be pursued by the Journal and through co-operative effort with the Power Engineers evolve economic methods of construction and design of rural lines

This Journal may serve as a beacon light and a constant reminder of the vital role that "**POWER**" has to play in shaping the future of New India, and of ceaseless effort required in harnessing its natural wealth in the service of common man.

(Sd.) S. G. MANAVALA RAMANUJAM,
Vice-Chancellor

The Madras Electric Trades Association.

11, Lingha Chetty Street, G. T., Madras. 1.

- Objects.**
1. To give facilities in the trade to the members.
 2. To make their ideas and want felt through the Association.
 3. To solve any difficulties in the trade which are met with by members,
 4. To give assistance to members either in legal or Government or any other matters.
 5. Are you a Member? If not enrol yourself. For particulars apply to Honorary Secretary.

MEMBERS.

- | | |
|---|--|
| 1. T. R. R. Swami & Co., Ltd.,
Electrical Engineers,
337, Thambu Chetty St,
G. T. Madras. (T. R. Ranga-
swamy-President). | 9. T. G. Pathy & Co,
230, Govindappa Naick St,
Madras I, |
| 2. Modi and Modi,
11, Lingha Chetty St,
G. T. Madras. (C. L. Modi B.A.-
Hon-Secretary). | 10. Electrical Mart Ltd,
296, Lingha Chetty St,
G. T. Madras. (P. S. Pillai, M.A.,
Editor). |
| 3. M. T. Rajan & Co,
195, Netaji Subhas Chandra
Bose Road, Madras. I. | 11. C. S. Parameswaran,
Madras. |
| 4. R. M. S. & Co Ltd,
16, Broadway,
Madras. I. | 12. Calicut Electric & Novelty
Stores,
Calicut. |
| 5. The South Madras Agencies Ltd,
Power House,
Tennur. | 13. Nathan & Co,
Karaikudi. |
| 6. Mohamod Ebrahim & Co,
Victory House,
7/8 Mount Road,
Madras. 2. | 14. P. S. N. Murthy & Co,
Kakinada. |
| 7. The Nellikuppam Industries Ltd.
3, Bishop Wallers Avenue Road,
Mylapore, Madras. 4. | 15. Solayappa Electric Stores,
Pottathur. (Ramnad Dt) |
| 8. The Electrical & General Supply
Co, 170, Broadway,
Madras. I. | 16. Nalam Raja Rao,
Rajamundry. |
| | 17. Comersee Kesowjee,
Chittoor. |
| | 18. Raghuram & Co,
Chittoor. |

The Power's Pick.

— OCTOBER 1950 —

Meter Readings :—

Days.	I Week.	II Week.	III Week.	IV Week.	V Week.
Sunday	1 h	8 h	15 h	22 h	29 h
Monday	2 h	9	16	23 h	30
Tuesday	3	10	17	24	31
Wednesday	4	11 h	18 h	25	
Thursday	5	12	19 h	26	
Friday	6	13	20 h	27	
Saturday	7	14	21	28	
					Total.

h :—HOLIDAY.

Electrical Measures.

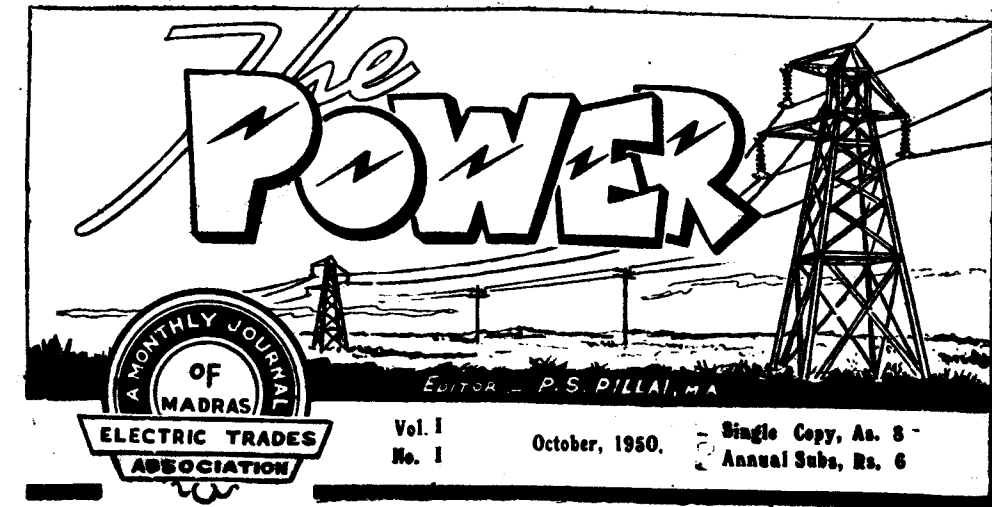
Ampere	—Unit of current.
Volt	—Unit of electro-motive force.
Watt	—Unit of power.
Ohm	—Unit of resistance.
Coulomb	—Unit of quantity.
Farad	—Unit of capacity.
Joule	—Unit of work.
Henry	—Unit of inductance.
Board of	
Trade-unit	—1000 watts 1 hour 746 watts: 1 horse-power.

Safety Rules.

- Avoid electric shocks.
- Beware of Live conductor bare or insulated.
- Never touch an overhead line unless it is dead and properly earthed.
- Always switch off before replacing a blown fuse.
- Always connect the live wire through the switch.
- Safety depends on Good Earthing.
- Leaky insulation will give serious shock.
- In case of fire, don't throw water on live equipment; disconnect supply.

— Power is Progress —





Published Monthly.

CONTENTS.

All correspondence etc., should be
addressed to the Editor and Publisher

P. S. PILLAI M. A.,

296, Lingha Chetty Street,
G. T., MADRAS. 1.

1. Editorial	...	11
2. Special Articles	...	13
3. Consumer's Companion	...	15
4. Trends of Trade	...	18
5. Books and Brochures	...	24
6. News and Notes	...	26
7. Here and There	...	31

For power & pumping problems

THE ELECTRICAL MART LTD.,
Electrical & Mechanical Engineers,
296, Lingha Chetty St., G. T., MADRAS
P. S. PILLAI, M.A.,
(Managing Agent.)

OIL ENGINE SPECIALISTS



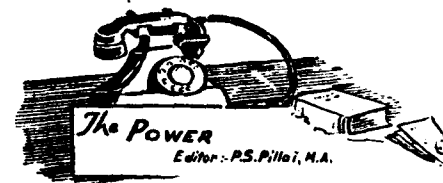
POWER

Vol. 1

October, 1950

376

No. 1



Ourselfes

The idea of bringing out a monthly magazine of this kind under the auspices of the Madras Electric Trades Association, was long in our contemplation. As Coleman remarked, "On their own merits modest men are always dumb". But that is no reason either for a individual or an association to keep the outside world ignorant of their activities and action when they are of common interest. And now only we have come forward thanks to the efforts of our association president, secretary and members in ushering this infant magazine into the world and count their patronage, encouragement and support.

It is apt that the name "Power" is given to this journal. By power we mean the electrical and mechanical power not the other forms and usages of power. The trends of the modern world indicate that the goal of human endeavour is towards material prosperity. In this atomic age, the Society and the Common man search for new gadgets and new luxuries and in short for a better standard of living and rightly too. The application of electrical power and in its absence mechanical power to mankind are so numerous that a large volume could be written. It enters into the cost of every crop which is grown and of every article that is manufactured. The factory, the farm, the car, the train, the aeroplane, the broadcasting and the television, all these and many more employ electric energy. The common householder and housewife make wide use of the electrical power in the form of lighting, cooking, washing etc. There is no end to the services electricity renders to mankind, just as there is no end to its development. Electricity, as the study of the electron reveals, is a part of the fabric of the universe itself and the more we learn about it the deeper our understanding of the great natural mysteries. At the

same time, electricity gives us new theories and new instruments of revolutionary importance in all other fields of science from chemistry to biology and psychology. In the absence of electric power which is "ready made", an independent plant such as oil engine is the only alternative. Irrespective of the comparison of costs of the electrical power and the mechanical power, each has its own advantages. The passport to prosperity is the rapid industrialisation of our Free India and the future of our industry depends to a great extent on Power.

What is our position to-day regarding this Power? The Horse Power provided per 1000 people in Norway, Canada, Switzerland, Sweden, U. S. A. and India are respectively 700, 600, 500, 200, 100, 1. This single figure of one for our country is startling indeed. But we need not be pessimistic about the state of affairs. Without entering into technical details, we have to note that the production of electricity in Indian India has doubled in the ten years ending 1949, showing an increase from about 2500 million kilowatts hours in 1939 to about 5000 million kilowatt-hours in 1949. The total installed capacity of all the generating stations in India reached nearly 1.6 million K. W. in 1949. Marked progress occurred in rural electrification. New electricity undertakings are in progress and to-day the total number of authorised electricity undertakings in the country is about 500 based on hydro-power system, steam and oil power systems. About 200 of these are state-owned. The total capacity outlay involved in all exceeds Rs. 120/- crores. Therefore it is clear that there are ample resources in our vast continent for development in this direction.

To the trader the "Power" will establish new connections, find out fresh resources of demand and supply and create more business both at home and

abroad. The concerned problems and the official publications on the trade will be dealt with. To the technician, who is the back-bone of the trade, many new problems and new types of equipment have developed and it is in the fitness of things, he is to be educated through the "Power". To the common man the consumer of electrical or mechanical power and to the industrialist on whom the economy of the country depends, the fundamental principles of the usage of "Power" in non-technical language are made available through the "Power" as is done, for example, by the Electric Development Association in England. The "Power" pledges itself to the service of humanity.

We propose to edit this journal in an elegant and educative style, devoid of much technical details, so that the trader, the technician and the consumer of electrical and mechanical power may be benefited in more ways than one. The editor's task is to crowd a yard of materials into a foot of space. The contributors work is to pack ideas one yard deep into one foot length. And the reader's privilege is to compare and contrast the many mushroom magazines and to condemn or condone one or the other. With this caution and care before us, we trust and hope to grow from strength to strength based on our courage, vision, faith and service, being patronised by our members and above all by the reading public. And now I venture to lay this first issue in the readers hands.



Special Articles

By P. S. P.

Pioneers of Electrical Science—Series I.

[All true discoverers and inventors are pioneers. They stand almost at the source of progress. Whether by sudden inspiration or sheer pertinacity of observation and record-keeping, or brilliant deduction or dogged persistence, backed by conviction, or by a combination of these things, their work has set the course for all who come after. They have sprung from many nations and all nations give them honour. Each science, each industry has its treasured names. The study of the growth of this scientific age shows that no single brain "invented" any of the methods by which we turn to our own benefit great natural forces. They are the work of many, arriving through a process of evolution though here and there, as with a few we seem to get right back to a starting-point where invention and discovery are inseparable. Poems have been written of pioneers; volumes have been printed about their lives; but their true-records are found in the every day business of the world. We pay to these men our belated tribute, since life is too crowded, nowadays, to allow us leisure for contemplation. We give them our fleeting grateful thought and pass on.]

The pioneers of electrical science explore regions linked with prime and essential things the very essence of life itself. They are the men who lead the way and live on in our memories, still showing the path, still holding the light.]

Michael Faraday.

Faraday is rightly called the father of the electrical industry. This great Englishman was born in 1791, his father, a Yorkshireman, being a blacksmith. Faraday became errand-boy at a stationer's shop in Blandford street and in 1805 was apprenticed there to learn the trade of bookbinding. This gave him opportunities for study in science in general and chemistry and electricity in particular. By happy impulse he heard four lectures on chemistry delivered by Sir Humphry Davy at the Royal Institution. He made full notes of them, elaborated them, copied them out, bound them and sent them to Sir Humphry. This resulted in an interview with Humphry and Faraday was appointed assistant in the laboratory of the Institution on a salary of twenty five shillings a week. Then his association with the celebrated building in Albemarle Street, Piccadilly, lasted for his whole life. Within a few years of his appointment he came in contact with famous men of science. From 1812, he grew more definitely interested in the phenomena of electricity, making constant experiments along the lines of thought which carried his name into every text-book of that subject to-day—the interaction of magnetism and electricity. In 1824 he was elected F.R.S. and in 1825 he became Director of the Laboratory. The climax came in the series of interesting investigations which concluded triumphantly in 1831. The results of these experiments gave birth to the whole of modern electrical engineering. His activities were extended further. The processes of illumination in light houses absorbed his attention. He retired in 1865 and died in 1867, in his study chair.

In 1921, the Council of the Institution of Electrical Engineers decided to commemorate

morate the 50th anniversary of its foundation by awarding each year, a bronze medal to be termed the 'Faraday Medal', either for notable achievement in electrical engineering or for conspicuous services rendered to electrical science, without restriction of nationality, country or membership. Besides, a beautiful statue of Faraday adorns the entrance of the Royal Institution.

It was not a weed but a fish; that was the result of Faraday's labour which established the evolution of electricity from magnetism. If electricity can produce magnetism, should not magnetism produce electricity? The answer took him many years and it was reserved for Faraday to consider the phenomenon "backwards".

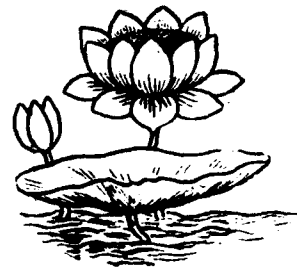
That is the action of the transformer and of other hundreds of apparatus, by which, with very little loss, an alternating current can be made to 'induce' another

alternating current in a separate circuit, which induced current may be of a higher or lower voltage if desired.

Then Faraday experimented on the phenomena of momentary currents which are indistinguishable from a perfectly continuous flow, even though he missed them because of their transitory nature.

That is the action of the modern generator. The machinery and the many devices which are ingenious and complex are based on this basic principle, the knowledge of which we owe to the perseverance and insight of Faraday.

We honour the name of this great man, Michael Faraday whose genius penetrated into the mysteries of physical science, and whose epoch-making discovery led to the birth of the electrical industry all over the world.



absorb or minimise the effects of such troubles and much study has been given to devising the best method of protection.

Consumer's Companion

[The consumer of Power-Electrical and Mechanical has every reason to keep closely in step with the fundamentals of this power and wide-spread modern applications. All calculations and complicated formulae have been scrupulously avoided but practical hints and notes in the form of elementary treatise are given to be of help to the common consumer.]

FOR HOME & HEARTH.

A little Electrical Language.

In speaking of electricity or electrical energy we have to become familiar with such terms as "volt". The term "volt" (named after Volta) signifies the pressure or strength of an electric current. Ordinary supply to our houses for lighting and domestic purposes may be at 110, 220 or other moderated pressures. The higher the pressure the more economical it is to transmit current for long distances. Also the greater care it needs in handling; hence the tall graceful lattice towers and their strings of porcelain insulators which are becoming familiar in our country and districts. At such pressures electricity will jump to earth or to a neighbouring conductor and that is why the most elaborate tests are made on all insulating materials. Just as it is dangerous to shut off suddenly a jet of water issuing from a pipe so the sudden breakage of a line or interruption of the current causes a "surge" which may for an instant be double the usual pressure. Lightning can also cause these "surges" of current. Precautions are taken from various designed appliances to

The Indian Electricity Act and Rules :— application.

After the introduction of electric power and its extensive use in India, the Indian Electricity Act was passed in 1910. Modifications to the Act were made in 1922. The Indian Electricity Rules framed in accordance with the Act came into force later and they have been added to and amended, from time to time.

The Indian Electricity Rules have been framed with the object of making the use of electrical apparatus safe for all. From the time a consumer presents his requisition for electric supply to the Electric Supply Company (licensee) his relations with the licensee are governed by the Indian Electricity Act. The licensee will send an estimate of cost of the supply line (defined as a service) and indicate what part of the cost is to be borne by the prospective customer. The consumer is now required to pay a deposit on receipt of which the licensee proceeds to lay the supply line. The consumer's next step is to get the electric installation work done. The consumer may provide his own energy meter after satisfying the licensee about its accuracy. The licensee is empowered to disconnect an installation in the following cases,

- (a) if the consumer has not furnished a security or its amount is insufficient,
- (b) if the consumer uses the electrical energy in a way that interferes with the supply of electricity to other consumers,
- (c) if the installation is not in good order and condition,

- (d) if the consumer makes alterations or additions to the installations without notifying the same to the licensee.

Electricity and Cooking.

The advantages of electric cookery are :—

- Heat can be obtained in a few minutes ; no waiting for the fire to burn up.
- Certain type of cooking apparatus are portable.
- There is less dusting, sweeping and scrubbing to do in the kitchen.
- Washing up cooking utensils is not disagreeable.
- Economy in time and in fuel.
- No bad odours, foul gases or fumes are caused.
- No danger of fire or of an explosion.
- Cooking can be done in free air.
- The servant problem is easily solved.

One unit of Electricity can :—

- Boil a three pint kettle five to six times.
- Cook a day's meals for one person.
- Toast 50 to 60 pieces of bread.
- Make 60 cups of tea or coffee.
- Make a light breakfast for four mornings.

In wiring for electric cooking appliances the capacity of the conductors should be such that they may be capable of carrying the full load of the appliances. Where cooking appliances consume more than 500 watts, they should never be connected to the lamp sockets-special outlets or wall plug receptacles should be provided. It is advisable to provide a separate

cooking and heating throughout with a separate meter. The concerned cable is generally a 3-wire type, one wire being used for earthing the cooker or kettle.

Apparatus & Appliances.

- Electric cookers.
- Movable Ovens.
- Heat storage Ovens.
- Boiling plates.
- Table cookery.
- Grills.
- Toaster.
- Egg boilers.
- Plate warmers.
- Coffee percolator.
- Milk Sterliser.
- Water boilers etc.

FOR FARM & FACTORY.

Diesel Engine

The diesel engine derives its name from its inventor Rudolph Diesel, a German Engineer. A diesel engine is an internal combustion engine. The main classification of diesel engines may be said to be

- (1) Standard.
- (2) Semi-Diesel.
- (3) Diesel.

The diesel type is the popular one in use as the prime mover. It is four stroke or two stroke. It is single cylinder or multi cylinder. It is either vertical or horizontal.

How a Diesel Engine Works?

The cycle of operation in a modern 4 stroke engine is as follows.

- Inlet stroke.** As the piston moves outwards pure air is drawn into the cylinder through the inlet valve which is held open mechanically.

- Compression stroke.** The valves are shut and the inward movement of the piston compresses the air and consequently raises its temperature.
- Power stroke.** Just before the end of the compression stroke, a measured quantity of fuel oil is injected into the cylinder. The compression temperature is sufficient to ignite the oil and the resulting rise in pressure forces the piston forward.
- Exhaust stroke.** Just before the end of the power stroke the exhaust valve is opened and as the piston moves inwards the products of combustion are forced out of the cylinder. The cycle of operation is then repeated.

Note :—The 2 stroke engine accomplishes the same result as the 4 stroke one. The steps in this cycle are (a) Inlet and compression stroke. (b) Power and Exhaust stroke.

Air cooled engine.

The new air cooled Diesel Engine has been put in the market by the Coventry Victor Motor Company. The capacity of the engine is 3 B.H.P. at 1000 R.P.M.; 4 B.H.P. at 1500 R.P.M. and 5 B.H.P. at 2000 R.P.M. It may be made to run on high speed fuel oil or petroleum, the capacity of fuel tank is 2 gallons. It is a single cylinder engine. The engine has been constructed with improved methods of adjustments.

Comparative running cost of an oil engine and an electric motor.

Conditions :— Power 40 B.H.P.
Duty 9 hours a day.
300 days a year.

Cost of electric power :—At the rate of 7641 units per month, the total electric bill amounts to Rs. 475/- per month, that is Rs. 5,700/- per annum.

Cost of oil fuel :—At the rate of 20 tons fuel consumption per year the cost of oil fuel is Rs. 2,400/- per annum.

	Electric Motor. Rs.	Oil Engine. Rs.
Capital outlay for the whole plant including foundations and erection ...	3,300	7,800
Interest and depreciation at 11% per annum ...	368	858
Electric Current as calculated above ...	5,700	—
Fuel Oil as calculated above ...	—	2,400
Lubricating Oil for Oil Engine ...	—	250
Labour for :—		
Electric Motor at Rs. 10 per month ...	120	—
Oil Engine at Rs. 40 per month ...	—	480
Spares for Oil Engine ...	—	235
	<u>6,188</u>	<u>4,223</u>

From the foregoing figures it will be seen that in an oil engine a saving of Rs. 1,960/- is realised per annum ; so that the extra initial outlay (Rs. 4,500) would be recovered in 2 years and 4 months. Thereafter, the Oil Engine Set, can be considered as showing a clear annual profit of Rs. 2,155/- over the electrical installation - the item of interest and depreciation now being considered as Rs. 363/-.



Trends of Trade

[To-day the world of Trade offers more and better opportunities to ambitious men and women, anxious to succeed in life than any other type of career. But competition is keen and in business as in everything else the biggest rewards go to those who have taken the trouble to perfect themselves and to increase their knowledge and efficiency.]

With the professions so overcrowded, more and more of the best brains in the country are embarking on business careers but the big prizes and the highest rewards go to the properly trained executive, the man who knows his job and can apply his knowledge perfectly and thoroughly. The expert moves on to the top of his profession, while others have been content to drift. The pride lies in performance.]

Ordinance.

Electric Bulbs form one of the items in the list of "The Supply and Prices of Goods ordinance, 1950" promulgated by the President of India. The recent Chief Ministers' Conference in Delhi had recognised the need to reduce the prices and prevent hoarding and profiteering and to take stern measures thereof. The maximum price fixed shall be the one prevalent on June 15 Pre-Korea war rates. Inter alia, Sec. 9 of the ordinance makes it obligatory for dealers and producers to issue cash memos for all cash transactions of Rs. 10/- or more and for cash transactions for less than Rs. 10/- when the purchaser demands a cash memo. Each cash memo should contain the name and address of

the buyer. Every dealer or producer shall exhibit as soon as possible, and not later than September 10, 1950 and on the first day of every subsequent month, at an early accessible place in his premises, a price list of goods held by him for sale and also a statement of the total stocks.

The following is the notification :—
(True Copy)

OFFICE OF THE BOARD REVENUE
(CIVIL SUPPLIES) CHEPAUK, MADRAS.
SRI V. S. HEJMADI, I.C.S.,
Commissioner of Civil Supplies.
BOARD'S REF NO. 125501/50/M3 (CS)
dated 9th Sept. 1950.

SUB: THE SUPPLY AND PRICES OF
GOODS ORDINANCE 1950
Electric bulb Prices-Fixation of.
REF: Government Development
Department Memo No. 90172-MI/50-I
dated 7-9-50.

In their notification No. 1(4) 32-16.50 dated 2-9-50 communicated with the Government Memo cited, the Government of India (Ministry of Industry and Supply) have fixed the maximum prices of electric bulbs (G.L.S.) under Clause (a) of Sub Section (I) of Section 4 of the supply and prices of goods ordinance 1950, as shown below :—

"The price prevailing on the 15th June, 1950 in the locality where the dealer or producer is carrying on the business".

The Board has examined the question of determining the prices prevailing on the 15th June 1950 in consultation with the trade and considers that the maximum retail prices of Electric bulbs in the State of Madras shall be as shown in column

2 of the Annexure in respect of the items shown in column I thereof. All the Collectors are requested to see that the dealers adhere to these prices.

All the Collectors are requested to acknowledge the receipt of this circular.

(Sd.) K. GHULAM MAHMOOD,
Secretary.

To all Collectors.

To all District Supply Officers.

To all Commercial Tax Officers.

To the City Rationing Officer, Madras.

Copy to the Secretary to the Government,
Development Department, Fort St.
George, Madras.

Copy to the Honorary Secretary, The
Madras Electric Trades Association,
11, Lingha Chetty Street, Madras.

Spare Copies 25.

forwarded By Order
(Sd.) A. S. KRISHNAMURTHY,
Superintendent.

ANNEXURE

Descriptions.	Maximum retail price (each)		
	Rs. as. ps.		
110/260 volts. Indian Made E.S. or B.C. clear or Pearl Vacuum lamps 15 and 25 watts ...	1	2	0
do 40 watts C.P. ...	1	5	0
do 60 watts ...	1	7	0
do 75 watts ...	1	11	0
do 100 watts ...	2	0	0
do 150 watts ...	3	7	0
do 200 watts ...	5	7	0

Note :—In the case of dealers in the mofussil 5 percent extra over the maximum retail price is allowed.

Unplanned Schemes.

The review of work during second year of the Industrial Finance Corporation of India is worthy of note to Industrialists. Many industrial concerns including mechanical engineering and electrical engineering applied for accommodation to the corporation. In the opinion of the corporation, schemes have been prepared or embarked upon by these concerns without adequate consideration of the technical and financial aspects of the proposal. No estimates had been prepared of the total outlay under various heads, no carefully considered plan of production was found. In some cases, unsuitable machinery has been purchased on considerations of cheapness. Many industrial concerns have not recognised the fact that the war-time phase of a rising demand is at an end and the sellers' market is getting harder. Many concerns are under-capitalised and are experiencing difficulties on this account. During war-time, conditions were different. Money was in plenty. The purchasing power was great. This is not so in the present post-war period. In many cases adequate attention has not been paid to possess suitable technical persons. All this is a warning to businessmen and industrialists.

Reserve Bank's Report.

The annual report of the Central Board of Directors of the Reserve Bank of India for the year ended June 30, 1950, states, in reviewing the general economic conditions in the country, that the major problem was inflation. The devaluation of the rupee emphasised the need to control inflationary tendencies. The 8-point programme (October, 1949) of the Government, had its main objectives, a reduction in the trend of prices and an

increase in the country's foreign exchange resources. A rapid expansion of exports and a reduction in imports from hard currency areas began to take place. Reduction in Government expenditure, the regulation of credit facilities, a scheme of compulsory savings were important features.

Trade Agreement between Czechoslovakia and India.

As per the Trade Agreement between the two countries, India undertakes to supply Czechoslovakia 4500 tons of aluminite ore, 4000 tons of manganese ore, 60,000 tons of iron ore, 3,500 tons of raw jute and jute manufactures as well as vegetable oils, skins and other products. In return Czechoslovakia undertakes to supply India electrical and industrial machinery, agricultural tractors, electrical apparatus, special tools, construction steel, news-print and paper, dyes, chemicals and other goods and wares to a total value of 1,944,000 pounds sterling. The biggest single item in the schedule of Czech. exports is agricultural tractors and their parts. The agreement is for 12 months from April 1, 1950 to March 31, 1951.

Trade between India and Japan.

Japan is making a strong bid to promote her export trade to India and Pakistan. The Japan Government has completed plans for the establishment of a Trade Bureau, two in India and one in Pakistan. The Indian centres will be New Delhi and Calcutta.

India's Overall Seaborne Trade.

India's Overall Seaborne Trade during the first six months of 1950 has recorded a favourable balance of Rs. 5.68 crores. During January-June 1950, her exports

and re-exports to hard currency areas accounted for Rs. 73,84 lakhs while our imports from those areas accounted for Rs. 6975 lakhs leaving a favourable balance of Rs. 409 lakhs. During the same period her exports and re-exports to soft currency areas accounted for Rs. 16311 lakhs while our imports from those areas accounted for Rs. 16085 lakhs yielding a favourable balance of Rs. 253 lakhs. Her exports and re-exports to medium currency areas amounted to Rs. 59 lakhs while her imports from those areas totalled Rs. 153 lakhs recording an adverse balance of Rs. 94 lakhs.

Imports from the United Kingdom for the six-month period, January to June 1950, totalled £45,586,000, compared with £72,972,000 for the first half of the previous year. The main items of imports during the first half of 1950 were:—Machinery: £19,928,000; Vehicles (including ships and locomotives): £7,885,000; Electrical goods and apparatus: £3,311,000; Chemicals, drugs, dyes and colours: £3,241,000. Imports of electrical goods and chemicals were almost halved, compared to the same period of the previous year. Exports from India to the U.K. totalled £46,661,000 as compared to £46,120,000 for the first half of 1949. The main items of export this half-year were:—Tea: £13,173,000; Jute manufactures: £3,219,000; Raw Jute: £319,000; and Leather and manufactures £6,155,000.

"The Battle of The Rupees"

The battle of the rupees between India and Pakistan started from September 1949 with the devaluation of the sterling and the non-devaluation of the Pakistan rupee. There was an adverse balance against India and the Pakistan rupee was regarded the stronger currency. The devaluation of the Indian rupee had changed the position

and to-day the Indian rupee is the stronger currency. This victory is due to the natural forces accruing from devaluation.

Ethics of Controls

The following articles have been brought under the scope of the Ordinance recently issued by the Government of India.

Non-ferrous metals, including brass (unwrought and semi-manufactured); bicycles; cycle tyres and tubes; electric bulbs; razor blades; caustic soda; soda ash; tanning materials (wattle bark, wattle extract and quebracho); raw rubber; casein; and infants' foods (Glaxo, Horlicks and Cow and Gate Milk).

Further items can be added to this list if the situation so warrants, by notification in the Gazette of India.

The theory and idea of controls is closely connected with the economic problem of the country. We have been accustomed to it since the last war. When the production of an article which is in great demand falls short of the requirement and everyone is not able to get it at reasonable price, controls become necessary. They are a common feature in European Countries. The people there consider controls as part of the necessary functions of their Governments. They gladly accept them. They are disciplined to follow them willingly.

Since we became accustomed to the system of controls recently, there may be some discontent against this system. Our businessmen lack that mental discipline to overcome the improper ways of earning money. The educated man can understand and appreciate the ethics of controls. The common man can taste the advantages of controls. Whatever it is, it is the duty

of the State to impose discipline on the Society without the least possible interference with the private life of individuals. Hence the need for controls whenever necessary. But the machinery which is to work out this system of controls should possess the sense of integrity on the strength of which the successful working of controls depends.

Commonwealth Trade

Ministers of ten Commonwealth countries recently met in London to discuss commonwealth trade matters and commonwealth economic and financial questions. The countries represented at the conference were: The United Kingdom, Canada, Australia, New Zealand, South Africa, India, Pakistan, Ceylon, Southern Rhodesia and Northern Ireland. The important subjects discussed were counteracting inflationary tendencies, the review of the sterling-dollar position, the development of Inter-Commonwealth trade, procuring raw materials at fair prices etc. The conference, after conclusion, issued a communique to the effect that,

(a) They were agreed on the need to preserve in measures to increase sterling Area's Dollar earnings,

(b) They recognised the importance of continued supply of capital equipment to the Commonwealth from the United Kingdom,

(c) It was noted that the United Kingdom defence programme is not expected to lead to any serious falling off of exports from the United Kingdom to the rest of the Commonwealth, but that if there were any signs of appreciable change in particular products, advance information would be given,

(d) It was recognised to have continuous close consultation between Commonwealth Governments regarding

the prices of raw materials and manufactured goods,

(e) The request made by the Indian Finance Minister Mr. Deshmukh for a larger quota of Dollars was supported,

(f) Other important agreements on the financial side were also reached.

A six-year Commonwealth plan for the development of the South-East Asian Countries is considered at the conference. South Africa is not associating itself with the scheme. India, Pakistan, Ceylon and British territories of South East Asia have submitted their plans and based on these, the Common plan had been evolved. The Indian Plan involves an expenditure of Rs. 1840 crores of which India will raise internally about Rs. 1030 crores, the rest having to come from external sources. Emphasis in all these plans was laid on agricultural development, multi-purpose hydro-electric schemes, transport and industrial development. Non-Commonwealth countries like Burma, Siam etc were expected to take part in the conference.

Use of Import Controls

The Federation of Indian Chambers of Commerce and Industry have submitted a memorandum to the Import Control Enquiry Committee, New Delhi. The memorandum, inter alia, emphasised the following points.

1. The Import control should be used to safeguard the interest of indigenous industries.
2. It should help the cause of Indian-shipping and insurance.
3. The need to impose heavy duties on imports of luxury articles.
4. The issue of licences should be speeded up.
5. The period of validity of the licences should be longer and the process of revalidation should be simpler and easier.

Tender Notices

Machkund Hydro-Electric Scheme (1 stage)-
specification C, 455 - Machkund
Power House - Structural Steel
in Building.

Last date - 3rd October, 1950.
Apply to Superintending Engineer.
(Technical)
157, Mount Road, Madras. 2.

Lighting for Moyar Power House
Specification E. 179.

Last date - 15 - II - 1950.
Apply to Superintending Engineer,
(Technical)
157, Mount Road, Madras 2.

Vizag Thermal Station
Specification No. E 182.
Supply and Installation of a 22,000 lbs/hour
capacity boiler and 44,000 lbs/hour
capacity steel chimney
Last date - I - II - 1950
Apply to Superintending Engineer,
(Technical)
157, Mount Road, Madras. 2.

Government House, Guindy
Supply and Erection of a
Passenger Electric Lift
Last date - 13-11-1950.
Apply to Electrical Engineer
(General) P.W.D.
35/38 Thambu Chetty Street, G.T. Madras I.

Around the Market

In the early part of September, Bombay market was rather dull but firm. Tata Steels monopolised. The market was being led by Calcutta. The electricians ruled steady. There was hope for an early settlement of the textile strike, which entered in the fourth week.

The Clive street in Calcutta stood on the belief in an early devaluation of the Pakistan Currency for resumption of normal trade between India and Pakistan. The loss to textile industry due to strike was estimated to be Rs 5 crores. The Congress Presidential Election had an effect on the general market sentiment. There was a wait-and-watch policy. On the whole the business was moderate.

The textiles in Madras were irregular. Electricians were steady. The oil market ruled erratic, due to the fall in groundnut acreage in the State from January to May. The miscellaneous lacked firmness. The trading in non-ferrous metals remained suspended due to the ordinance. Pepper reached the highest level in price.

Then, Bombay received encouraging advices from Calcutta. Caution marked trading which was done on a small scale. The market expected the decision of the Appellate Tribunal on the Textile bonus issue and the announcement of the International Monetary Fund. Electricians ruled steady. There was a firm tendency. Tata Steels captured the market and the Tata deferred shares went up around Rs 1865. The oil seeds market was prominent.

The market in Calcutta began to steady up. The Dalal Street operators were having little value of time due to small volume of business. General caution prevailed. The coal shares began to record advance due to India and Pakistan exchanging coal for rice. In miscellaneous, the market remained quiet and unchanged.

The textiles in Madras looked up a little. The prices were fixed under the new ordinance. The rubber registered some improvement. The Nilgiri tea had a rise of 20 per cent dividend.

Thereafter, in Bombay the announcement about the postponement of the

consideration of the par value of the Pakistan currency led to the decline in enquiries. The Tata Steel showed a decline. The Banks, Insurances, and Electricians ruled steady. The operators seemed reluctant to extend support either way, awaiting development in respect of textile strikes. After early irregularities leading equities became steady. Trade was not bright and prices drifted idly within a limited range. Electricians ruled featureless. There was cheerfulness again on the stock exchange. The market was backed up by Calcutta. There was news that the Tata locomotive and engineering company Ltd, decided to raise Rs. 1½ crores capital through the issue of 5% taxable debentures. In cotton mill shares Simplex continued to hold the field. The dealings in general were slow.

There was a lot of political speculation in the Calcutta market. The news from Paris about the Pakistan currency began to shock market circles. The coal shares were on the upward trend and active. The jute market was subdued with occasional profit only. The Indian cables showed a dividend of 25% including a cash bonus of 10% for the year ended March 31. Tea shares maintained the interest and enquiry for Assam Garden Shares continued. The money market was free. The market then began to decline in almost all sections and the prices were firm. The Dalal Street was not on the whole happy. The coal shares continued to be in the lime-light. Black Pepper touched high in the market. All sections were quiet but steady.

The Madras market began to rule quiet in textiles. There was disappointment by the news from Paris on the Pakistan Currency. The Nilgiri Tea was a standing feature. The prices in most cases remained unaltered. The prices of vegetable oil were fixed. There was a good demand for tea in Cochin Market.



Books & Brochures

"Knowledge is Power"

The Electrician.

(By V. S. N. Row B.Sc, (Engg) Published by Industry Publishers Ltd)

Price Rs. 6/-

This is a handy book with full of practical hints and notes, useful to the trader, the technician and the consumer of Electricity. There are twenty chapters in all under various useful headings. Beginning with the definitions of electrical terms, the description of the common work shop tools, the author takes the reader through the principle of wiring, lighting installations, generation of electricity, principles of alternating current and the care and maintenance of A. C. Motors. A good number of illustrations are also found. At the end of the book some useful tables are printed. The important provisions of the Indian Electricity Act 1910 and the Indian Electricity rules 1937 are also provided. Next come the important safety rules for electrician. And the book concludes with the glossary of electrical terms, with a total number of 278 pages.

Alternating Currents.

(By B. B. Pradhan)

This small book is published by K. N. Gokli, Matunga, Bombay and is priced Rs. 1-4-0. It is very useful to students of Electrical Engineering. The difference between A. C. and D. C. systems is well brought out. The essential properties like reactance, impedance and capacitance of different types of A. C. circuit are vividly described through Vector Diagrams. On the whole it is a valuable guide.

Hydro Electric Hand Book.

(By W. P. Creager and J. O. Justin.)

Second Edition. 1,151 pages, illustrations, diagrams, charts, maps etc. This standard book gives a comprehensive and detailed treatment of the problems involved in hydro-electric power development and provides sufficient data for preliminary designs, estimates of costs and repairs. There are 4 major sections. The first covers the investigation and planning of a hydro-electrical project. The 2nd discusses and compares the various types of dams and presents the general design methods involved in their construction. The 3rd section covers conduits and power houses. The 4th describes the mechanical and electrical equipment of a hydro-plant and methods for its operation.

The Commissioning of Electrical Plant and Associated Problems.

(By R. C. H. Richardson, B.E., A.M.I.E.E., A.A.I.E.E., A.M.N.Z.I.E.)

This is a series of monographs on electrical engineering under the editorship of H. P. Young, M.I.E.E., M.A.I.E.E. In this reprinted second edition in 1948 the

author has divided the contents into six sections (viz) Alternators, Alternating Current Motors, Transformers, Direct Current Plant, Converting and Rectifying Plant and Circuit breakers. The book deals with the important subject of the actual commissioning of electrical plants in Power and Sub-Stations and in industrial works devoted to the production of manufactured goods. The discussion of the various types of transient instability of rotating machines has been expanded, since this subject is now of first-class importance. The technique of the measurement of insulation resistance, the assessment of the quality of insulating oils are also dealt with. This is a work of reference which no engineer interested in

the subject of electric power can do without.

Electrical Times.

Printed and published in England, every Thursday. It runs into 59th year of publication. It discusses problems concerning electrical trade, exports and imports, commercial information, personalities in the industry etc.

Cost Six pence a copy.

Mechanical Engineering.

Published by the American Society of Mechanical Engineering. It is a monthly journal, costing 75 cents a copy.



54
C6 m 211-250
NSD-1-1

News and Notes

MEN.

Mr. Tandon.

Sri Purushothamadas Tandon won in the triangular fight between Sri Purushothamadas Tandon, Acharya Kripalani and Sri Shankarrao Deo. Mr. Tandon was born in Allahabad in 1882. After taking his LL.B. degree he became a junior under Sir Tej Bahadur Sapru. He was law member in Nabha State from 1914 to 1918. He joined Congress in 1909. He gave up the legal profession in 1919. He took active part in the anti-Rowlatt Act agitation and Satyagraha movement. He was the President of the U.P. Congress twice in 1923 and 1948. He was the general manager of the Punjab National Bank, Lahore from 1925 to 1929. He joined the Servants of People Society, founded by Lala Lajpat Rai in 1929 as president. He founded the Central Kisan Sabha in 1930. He was the speaker of the Legislative Assembly U.P. in 1937. After the resumption of office by the congress he became the speaker again in 1946 and resigned the speakership to stand for the election as Congress President. He served the Congress for 50 years and had suffered imprisonment and detention as a political offender several times. He is a well-known Hindi Scholar and is one of the founders of the Hindi Sahitya Sammelan.

General Smuts.

The death of General Smuts, a statesman, a soldier, a man of letters and a friend of all, removes from the world stage a very great personality. Born of Dutch

parents in 1870, he had a brilliant career as a student and joined the Cape Town Bar. In 1900 he took active part in the Boer War. After the war ended in peace, he fought for full Responsible Government for the Transvaal and the Orange Free State, which was granted in 1906. The South African Union came into being in 1910 by his efforts. He filled many cabinet offices. He took active part in the first World War and succeeded Botha as Prime Minister in 1919 and held the post till his party's defeat at the elections by Dr. Malan's group. He bore an equally important part in the Second World War. He is the author of books like "The League of Nations—a practical suggestion", "Holism and Evolution". His death is a loss not only to South Africa but to the whole World. It is to be remembered General Smuts and Gandhiji were good friends.

Sir M. Visvesvaraya.

The services of Sir M. Visvesvaraya, the engineer statesman and the President of the All-India manufactures' Organisation, were felicitated through-out the country on the occasion of his 90th birthday. Replying at a reception held at Bombay, he said "We must take life as it is, as it always has been and always will be more or less of a struggle. No man should fool himself in this matter".

MATTERS.

Assam Earthquake.

The Earthquake reported to be the second greatest recorded so far, began in Upper Assam and North-Eastern Frontier Agency on August 15th. The last great Assam earthquake took place in 1897. The present one started in a series of earth tremors in Upper Assam. The tremors continued again and again and this caused surprise even to seismologists.

The correct loss cannot be estimated now. It is too early to do so. The total areas covered by earthquake is about thirty thousand square miles, nearly half the Assam State, which borders Tibet and China and Burma and Pakistan. The population affected was about 50 lakhs, of which the majority were tribesmen. About a lakh of houses and buildings were destroyed. The un-official report of death-roll were about 500. The loss of live-stock would have been one lakh of milch-cows and bullocks. The estates suffered heavily. The total loss was estimated to be about Rs. 10 crores.

The towns of Laxhimpur, Shillong, Gauhati and Dacca experienced severe earthquake shocks. Many strange phenomena had occurred. Hills had been levelled with all their flora and fauna. Rivers were thrown out of their courses or made to disappear. Thousands of acres of land under crops had been mutilated. Many hill trees were up-rooted, many buildings collapsed and many families were rendered homeless. The tribesmen, living at the foot-hills of the Himalayas, fighting against nature and wild ferocious animals had been thrown back at least a decade in social progress.

There was a cry of help and this was forthcoming from all quarters of the Globe. The air-forces and the armed-forces did rescue work cheerfully. Medical relief was also forth-coming. The Assam Governor's appeal for funds had good response. The recent visit by the Prime Minister of India to the affected areas had created a feeling of confidence among the people who had borne the trend of the earthquake and subsequent floods.

Research in Ceramics

The Central Glass and Ceramics research institute, the first of its kind in

India and fourth in the chain of the national research laboratories set up by the Government of India in the country, was opened on 26th August 1950, at Calcutta, by West Bengal's Chief Minister Dr B. C. Roy. The function was presided over by the Governor of West Bengal Dr. K. N. Katju and eminent Indian Scientists like Dr. S. S. Bhatnagar, Sir C. V. Raman and the Minister for Industry and Supply, Government of India Mr. Harekrishna Mahatab took part. The Prime Minister of India and others have sent their blessings. After the attainment of freedom great research laboratories were established at centres like Poona and Delhi. And now came the turn of the historic city of Calcutta wherein this Glass and Ceramic research institute has been set up. The object of the institute is to standardise the kind of raw materials available in the country and also to train persons in scientific methods in the use of instruments for this industry. Research had already been in progress on coloured glass, sintered glass and foam glass. It is well known that glass is a material which is indispensable to science; without it there would have been no chemistry, no physics, no medical science and no astronomy. India has enough raw materials for Glass and Ceramics works and they could easily export their manufacture outside if they know how to develop the means of production. In spite of this, to-day, India is importing Glass and Ceramic goods on a large scale. This new institute will reverse this position as quickly as possible and contribute to the economic and industrial progress of the country. Much depends in general on the basis of fundamental research.

Train Disaster.

The Delhi-bound Kashmir Mail derailed near Gurdashpur on the East Punjab Railway on 3rd September. The accident

is reported to be due to heavy floods which washed the approach bank of a Culvert. 25 persons were reported killed and 45 injured.

The down Chittagong Express derailed on 8th September night about 40 miles from Dacca. This was a case of sabotage. About 50 persons were killed.

World Power Conference.

The 4th World Power conference was held recently in London. Intensive discussions took place on important topics by eminent people. Interesting papers were read. Tours and excursions were arranged for the delegates. One of the most important contributions was in the form of a report presented by R. Y. Sanders, Deputy Commercial Manager of the British Electricity Authority. This dealt with energy resources and power developments since 1924 and covered 26 papers from countries covering approximately 30% of the World's area and 40% of its population.

In Great Britain electricity generating capacity has increased by 1949 to 3½ times the 1924 figure and output to 8 times. Switzerland is particularly favourable for Electric Development. The consumption of electricity in this country has trebled since 1925. In Austria the main internal source of energy is water-power. The Netherlands are primarily dependant on coal, with only a small potential water-power. Portugal increased her production of electricity by 400% between 1927 to 1948, the chief power-resource being water. Norway has doubled the development of water-power capacity since 1924, this being equivalent to 16% of the estimated total resources. Sweden has very little coal and liquid fuel resources but has increased her water-power capacity to more than 3½ times the 1924 figure. Italy

by 1949 had exploited 40% of the estimated usable water-power resources. India's workable coal reserves are of-course extensive and the installed Hydro-Electric capacity is only a fraction of that available from the sites so far surveyed, these in turn being only a small part of her ultimate water-power potentialities. In Egypt practically all power requirements have to be supplied from oil-fuel. As regards South Africa, the Union has no oil or natural gas; rain fall is seasonal and the facilities for economical water storage are poor. In Australia the reserves of coal, brown coal, and lignite are sufficient for a very considerable time, while there are important water-power potentialities. Although Canada has trebled her Hydro-Electric capacity since 1924, only about 20% of the total resources have yet been developed, while there are also extensive coal reserves. In the United States coal is still the greatest single source of energy and there is no anxiety concerning the reserves.

The Company Meeting.

The Tata Iron and Steel Co. Ltd.,

At the annual general meeting of the above company held recently the following points are worthy of note.

1. The tribute to the memory of Sir Adeshir, Dalal.
2. Dr. John Matthai's return to the company.
3. The benefit of the full-time services as Resident Director-in-charge at Jamshedpur of Sir Jehangir Ghandy.
4. The survey of the economic situation during the year under review by the chairman Mr. J. R. D. Tata.
5. The increase in profits before depreciation of about Rs. 75 lakhs over the previous year.

6. The profit-sharing bonus scheme.
7. The increase in production.
8. The contemplation of expanded programme.
9. The statement about deferred shares conversion scheme.

Tungabhadra Project.

The various works connected with the Tungabhadra Project irrigation scheme which is expected to develop 7,000 K W. of seasonal power, are progressing according to programme. The chief engineer (electricity) had submitted proposals relating to the hydro-electric scheme estimated to cost about 800 lakhs in ten years. The operation of the scheme is expected to commence in 1954.

Food for Thought is Thought for Food.

Agriculture in India is a gamble in Rain or Sun. With the failure of the monsoon in Madras, the drought in Mysore, the floods in Bihar and the earthquake in Assam, the stocks are depleted and food shortage in the country is felt. An import of about 1½ to 2 tons of food grains has become an inescapable necessity. A careful husbanding of all resources and austerity measures are to be followed. Production of food should be increased. Prices should be kept down and loose talk should be curbed. This problem is a long-period one and it has to be solved slowly and patiently.

Nasik Congress Session.

The 56th Indian National Congress was held at Nasik near Bombay from September 16 to 21. At Gandhinagar the venue of the session, elaborate arrangements were made at a cost of about Rs 6 lakhs. The postal arrangements, the police arrangements, the Transport arrangements etc., were splendid. All important leaders

attended. The following are the main points spoken by the president Mr. Tandon and resolutions adopted.

1. The tribute to the departed leaders like Sarojini Naidu.
2. The re-affirmation in secular democracy.
3. The rejection of communalism.
4. The adoption of Hindi as national language.
5. The clarification of foreign policy-neutral.
6. The solution of the refugee problem.
7. The need for social and economic planning.
8. The necessity for controls.

The Korean War.

Korea had focussed the attention of the whole world ever since the bloody war began last June. The efforts of the Security Council and the U.N. General Assembly did not go in vain. The history of Korea dates back over 2000 years. Korea was under Japan for 35 years after 1910. At the end the World War II in 1945, the country was divided artificially by the 38th Parallel and the North and the South were backed up by Russia and United States respectively. A clash of ideologies between Russia and United States was deep-rooted. The impact of the war on Indian prices and Government's reactions were features in business world. Prices began to increase. The Government had to take stern measures to put them down. Along with the trend of favourable events, prices began to fall.

SPORTS.

The West Indies Cricket Team won the rubber in the Test Series against England at the Oval by 3 matches to 1.

The M.C.C. Cricket Team has started on its tour for Australia and New Zealand.

Speaking at the annual day celebration at Chepauk, H.E. the Governor of Madras had suggested the need to mobilise cricket talent in the mofussil by dividing Madras State into Zones and arranging the inter-zonal matches.

The Common Wealth Cricket Team will play five-day tests at Delhi (Nov. 4-8), Bombay (Dec. 1-5), Calcutta (Dec. 30, 31-Jan. 1-3), Madras (Jan. 19-23), and Kanpur (Feb. 4-8).

Australia won the Davis Cup in the Challenge round of the Davis Cup Tennis Tournament at New York.

Table Tennis Fans of India will be glad to know about the visit of well-known players from Czechoslovakia and Yugoslavia during November.

The Indian Army Team including the Hockey Wizard Dhyani Chand had done

very well in hockey, soccer, and cricket in Ceylon during their recent tour.

Billiard Fans will be glad to note about the tour in India of Tom Clearly this cold weather.

Forceful Badminton was witnessed in Bombay in the open Badminton Championships in which the Malaysians took part.

Dr. B. C. Roy Chief Minister, West Bengal, laid the foundation stone of the Ranji Stadium at Eden Garden in Calcutta. It will have a seating accommodation of 50,000 and will provide for cricket, lawn-tennis, boxing, badminton and swimming. It will be also equipped with good library covering sports and general literature.

The Government of India has appointed a national coaching scheme for the Union school-boy Athletes at a cost of about Rs. One lakh.



Here & There

Electricity from the Sea

The first electric plant of its kind in history and in the world, is being built by the French Government at Abidjaro on the Ivory Coast in order to harness the energy obtained by mixing water with water, bringing together water from the surface of the ocean and colder water from the depths. It will have a power of 7000 K.W. The temperature in the surface waters of the oceans reach 28 degrees C (82 degrees F) in tropical countries and cold waters from the depths 8 degrees C (46 degrees F). By bringing these together huge quantities of energy are obtained. The process consists in evaporating under vacuum part of the warm surface water at 28 degrees C. The resulting steam is inhaled by the condenser, which is cooled by the deep waters, and on the way it passes through a turbine that drives an electric generator. The need for more power to increase production and raise standards of living is increasingly urgent and apparent. From the economic point of view the thermal energy of the sea compares very favourably with hydro-electric energy.

Not a Hay a Day

An 8 ft. 6 inches tall mechanical elephant that can walk at 27 miles an hour, wave its trunk and flap its ears, has been invented by Frank, Shiart, a Scotsman. Completely life-like in appearance, equipped with howdahs to carry 12 children, powered by an 8 H. P. engine, this robot Jumbo, modelled on the Malayan elephant does not eat a hay a day.

The Egg and the Electricity

Those who have never visited a modern poultry farm may not realise which scientific methods plus electricity have achieved. The days when hens scratched for worms and casually deposited their eggs under dilapidated farm

courts have gone. The modern hen has gone all-electric in a big way.

One World Government

Bertrand Russell, British philosopher, during his stay at Karachi recently on his way from Australia to Britain, stated that one-world Government is the only solution to the present world problems. We wonder whether the world has become so small as to justify a one-world Government in spite of the advance in Atomic Science.

Nehru's Tapals

Prime Minister, Pandit Jawaharlal Nehru receives about 1500 letters a day and the no., was going up to two thousand.

At an Evening Party

"So, that is your special floodlight for photographing celebrities! Is it powerful?"

"Oh, yes, about two hundred Scandal Power".

Electricity & the Doctor

It is necessary to consider the relation between electricity and good health. The violet-ray treatment known to medicine as actinotherapy is an attempt to import by artificial means the healing effects by sun-light. Light, in many instances, has taken the place of the surgeon's knife. This form of treatment effects a cure when other remedies have failed and it is often a valuable aid to older methods. Its greatest value is in cases of "rickets" in children. A modern X-Ray plant costs a lot of money. Electro-medical appliances are numerous. Some of the most successful medical uses of electricity have been on photographic lines. Special training, care and precaution in the use of apparatus and sound medical judgment are necessary. The doctor and the electrical engineer together can do wonders. Electricity has given the doctor a new arm against the ills of humanity.

Lamp

It is difficult to realise today that until 1870, electric lights were practically

unknown. From the sputtering flicker of oil lamps thousands of years ago, right down through the succeeding stages, the evolution of lamp lighting in India has almost reached its peak to-day. The magic of electricity has been harnessed to give light and life.

Electricity (historical)

The phenomena of Static electricity produced by friction were known to the ancients from 600 B. C. The property which amber (a fossil rosin) possesses of acquiring electrical charge by friction is first recorded by Thales of Miletus and suggested the word "Electricity". The chief effects produced by electric currents are magnetic effects, heating effects and chemical effects. These discoveries were made after 17th century A. D. and the study of ionization is a development of 19th and 20th centuries.

A New Device

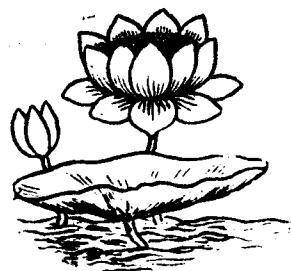
Mr. P. C. Mukherjee of Calcutta has invented an electro-mechanical locking device to prevent burglary and theft in trains. During motion of the train the doors get locked automatically. When the train stops at a station the doors on the platform side get unlocked. If the train stops midway between stations, the doors remain locked and can be opened on one side only at the guard's discretion. Any attempt to tamper with a window bar or to force open the door of a compartment in

the moving train will automatically work alarm bells inside the compartment as well as in the engine. The adoption of this device has taken place by the Indian Railway and will be made full use of after test and satisfaction.

Nobel Peace Prize.

Dr. Ralph Bunche, who was acting United Nations Mediator in Palestine has been awarded the Nobel Peace Prize—Rs. 1.5 lakhs. The first Negro ever awarded the Nobel Peace Prize, Dr. Bunche is about 45 in age, is the grandson of an American Slave and has a wife and three children. He declined recently the post of the Assistant United States Secretary of State offered by President Truman. With inexhaustible patience, resource and ingenuity, he put forth Herculean efforts to put an end to the fighting in Palestine, and thus became a great Servant of the United Nations.

The Nobel Prize was founded by Alfred Nobel, a Swedish Chemist who died in 1896. The prize money comes from a fund of approximately Rs. 40 million set up by Alfred Nobel. Each annual award is about Rs. 1.5 lakhs. The prizes for the annual award are for Literature, Physics, Chemistry, Physiology, Medicine, and Peace. No Indian has won the Nobel Peace Prize. Dr. Rabindranath Tagore won the Nobel Prize for Literature in 1913 and Dr. C. V. Raman won the Nobel Prize for Physics in 1930.



JL
C6 - 211, NSO
NSO - 1-1

The Nellikuppam Industries Ltd.,

ELEC. & MECH. ENGINEERS & CONTRACTORS.

Place of Business:

337, Thambu Chetty Street,
G. T., MADRAS. 1.

Registered Office:

3, Bishop Wallers Avenue East,
Mylapore, MADRAS. 4.

Distributors for South Arcot Dt.,

1. WITTE DIESEL OIL ENGINES,

2. "SRI" PUMPS.



TESTED BY THE

Government Alipore factory and certified as most economical. Sturdily built, it gives the longest and guaranteed trouble free service.

SOLE DISTRIBUTORS FOR

Tamil Nad including CHITTOOR Dist., & MYSORE. State.

RM. S. & CO. LTD.,

11, Broadway, MADRAS. 1.

T. R. R. Swami & Co., Ltd.

ELECTRICAL ENGINEERS.

Place of Business:

337, Thambu Chetty Street,
G. T., MADRAS. 1.

Registered Office:

3, Bishop Wallers Avenue East,
Mylapore, MADRAS. 4.