

409

The POWER

A MONTHLY JOURNAL

EDITOR : P. S. PILLAI, M.A.

Vol. I

NOVEMBER 1950.

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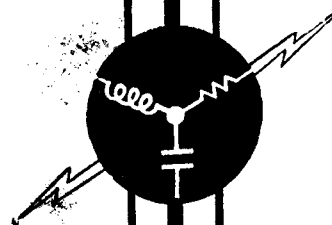


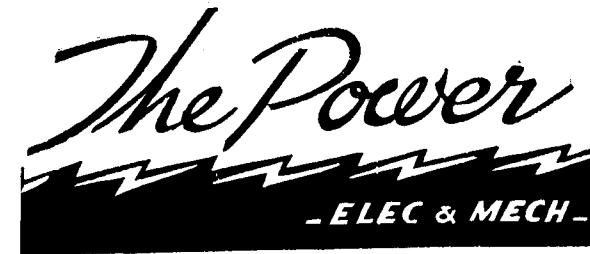
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The monthly journal of the Madras Electric Trades Association.

**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.

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To the common man, the consumer of electrical or mechanical energy, and to the Industrialist of 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.

[For copies Apply to:—The Publisher & Editor, P. S. PILLAI, M.A.,
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G. T. Madras. I.]





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- Objects.**
1. To give facilities in the trade to the members.
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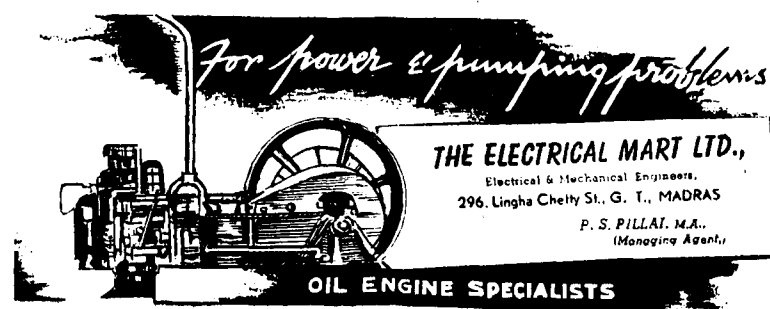
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The Power's Pick.

Meter Readings :— NOVEMBER 1950 —

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

Total.

h :—HOLIDAY.

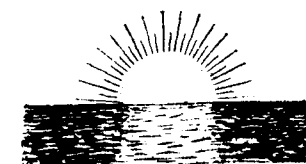
Electrical Measures.

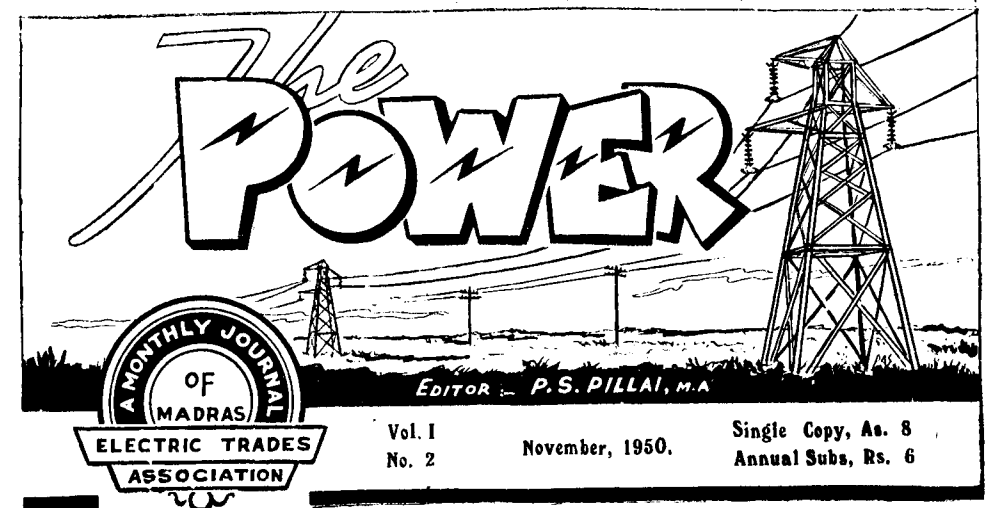
Ampere	—Unit of current.
Volt	—Unit of electro-motive force.
Watt	—Unit of power.
Ohm	—Unit of resistance.
Coulomb	—Unit of quantity.
Farad	—Unit of capacity.
Joule	—Unit of work.
Henry	—Unit of inductance.
Board of Trade Unit	—1,000 watts 1 hour 746 watts: 1 horse-power.

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.

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P. S. PILLAI, M. A.,
296, Lingha Chetty Street,
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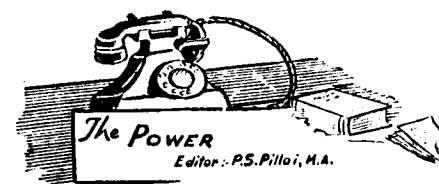


POWER

Vol. 1

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No. 2



Conditions in Country-Side

The pattern of economy throughout Asia and the Far East in general and India in particular is essentially rural. The problem is two-fold-to produce more wealth in agriculture and industry and to provide greater opportunity for gainful employment. Planned development of villages and small-scale industries are the requisite factors to raise the standard of living of the teeming millions of India. This is only possible by increasing the efficiency of production machinery which in turn increases the earning capacity in rural areas. Rural Electrification is but a step to the attainment of such an objective.

If we think back to the days before electricity supply became common place, and before gas, we come to the period of the oil lamp-probably the first form of

artificial illumination, except fire light, known to man : and to those of us who live in towns it brings something of a shock to realise that there are still hundreds of villages, hamlets and farms in our country which have to depend on this for their light. A list of two or three hundred for other uses of electricity in the village can be given. But space forbids. The home and the hearth finds much use for electric power. Lighting, cooking, water-heating are the items which can be carried on economically through electricity. The garden is interesting. Light treatment is given to plants in the green house. The farm and the factory find ample use of this power. Cows are milked by electricity. Ultra-violet ray treatment is given to the cows, pigs and poultry with great advantage. The electric plough driven by fifteen horse-power motor does the average work of about five acres a day. The pumping of water, the manuring, the thrashing, all these are done by electricity. Wood-working, cabinet making, weaving, wood sewing, pottery-making and other cottage industries find use of this power.

In India, at present, only about 23 per cent of our towns and villages have the benefit of electric power supply. The

quantum of power generated to-day from hydro-electric and thermal resources is about 2,000,000 K. W. Even this is not most usefully distributed. Only 38 per cent of the villages with a population of less than 5,000 had electricity in 1949.

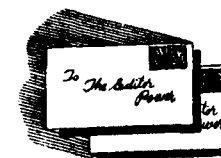
There is the other side of the argument which has to be met with. Some thinkers opine that rural electrification would release the employed labour, thereby adding to the already unemployed. It may be true to some extent but it is not the whole truth. The introduction of electricity would facilitate decentralisation of industries in the long run and would enable absorption of the unemployed both undisguised and disguised. It would pave the way for more gainful occupation of the village people. The Memorandum of the Congress Economic planning Sub-Committee programme, issued recently, urged the State Governments to have targets in their plan for organisation of industrial co-operatives which should be entrusted with the task of organising distribution of electrical power within their respective capacities. The lack of steady flow of cottage products in the markets will be remedied by rural electrification. The Grow-more-food campaign is inter-related to the success of the programme of rural electrification.

Japan and America are eye-openers on the point. The secret of Japan's industrialisation lies in decentralisation and availability of cheap electricity. The Japan's industrial system is based on

decentralisation and the rural areas contribute their full share in industrial progress.

The U. S. Government's programme to bring electric light and power to American farms began 15 years ago when only 7,000 farms were receiving electricity. To-day more than 5,000,000 farms or about 85 per cent of the total number of all U. S. farms are electrified. The work of the U. S. Rural Electrification Administration (R. E. A.) which is the Government agency set up by Congress to stimulate rural electrification is commendable. The R. E. A. has made loans since 1933 aggregating more than \$ 2,100,000,000 to the local groups on low interest. The loans were utilised for the spread of rural electrification. According to R. E. A. note, one kilowatt-hour of electricity, costing As 2½ will pump 1,000 gallons of water or milk 30 cows or grind 200 bushels of corn or cook 10 gallons of milk etc. Visitors to the continent are familiar with the sight of a little shack or house perched high on a mountain-side, with its supply wire almost invisible against the foliage or the green back-grounds, giving it the benefits of electric light and power.

Our age is one of electric power and of electric wonders. The day must come in the vast continent of ours, when electricity will be for every one as the waters of the rivers and the wind of Heaven. It should not merely be supplied, but lavished, that people may use it as their will, as the air they breathe.



P. S. KUMARASWAMY RAJA,
Chief Minister of Madras.

Fort St. George, Madras
12th October 1950.

I am glad that "**THE POWER**" has made its appearance in the field of journalism in the form of a monthly journal, running under the auspices of the Madras Electric Trades Association. In the present day when science is advancing by rapid strides with its potentialities for increasing the wealth of the country, if harnessed properly for the promotion of the well being of the people, and when electricity is playing a very vital part in the several schemes of development in our country, knowledge on matters of science, electricity, etc., is very necessary, and desirable too. I hope that this Journal, which is the organ of the Madras Electric Trades Association, will largely serve that purpose. And I also hope that it will be of use not only to the members of the Association but also to the public in general. I wish the Journal every success.

(Sd.) P. S. KUMARASWAMY RAJA,
Chief Minister of Madras.

M. S. PONNUSWAMY IYER B.Sc.,
Landlord &
Secretary, Correspondent,
National High School.

MAYURAM,
14th October, 1950.

Dear Sir,

I received your Maiden copy of the "**POWER**". It is with the greatest pleasure that I went through it and found that all the articles are par excellence. The simple language and ideas, are good reading, in a country which is not very high in the field of Education.

I have therefore no hesitation to commend the journal to the public and wish the journal all the success that it deserves.

Yours faithfully,
(Sd.) M. S. PONNUSWAMY IYER.



Special Articles

By C. L. Modi, B.A.,

ELECTRICAL TRADE AND IMPORT LICENCES.

India, which is a fast developing country in hydro-electric schemes, has been handicapped since years past by import licencing restrictions, and the natural free trade, which was existing prior to the war, has completely disappeared on account of the restrictions.

On the one hand, the Government, and the public, are interested in developing big hydro-electric schemes throughout the country, so that there might be more production of various other apparatus, machinery, etc., and the country may be far advanced economically. On the other hand, the restrictions imposed on the electrical appliances and machinery unfortunately retard these schemes, because of the lack of the availability of such materials in the market.

It is true that the Government has to look after the foreign exchange, but in the opinion of the trade, as well as producers, these import licence restrictions as far as electrical appliances, machinery etc., are concerned should be removed forthwith, as they hamper not only free trade but also the industrial development of the country.

The second viewpoint of the Government is that the local indigenous manufacturing firms should be given protection by imposing restrictions on the import of such items manufactured by local manufacturers, and whilst this may be true to a certain extent, the Government should not lose sight of the fact that several of the local manufacturers either are not in a position to produce in quantity, or in quality to meet the exacting standards and demands of the country.

Take for example the electric motor manufacturing industry. There are three or four firms we may call leading firms manufacturing electric motors to British standard specifications, but these few firms definitely are not in a position to meet with the demands of the industries or the consumers in the supply of motors, and the standard electric motors, which are normally demanded by such consumers have been completely banned and cannot be imported.

Wires and Cables: This is another example. Licences so far were being issued on a very restricted basis on the ground that there were two or three firms manufacturing large quantities in India. Actually, the quality of such manufacturers have been found to be good, but unfortunately they have not been able to cope with the demand for the smaller sizes, and very recently the Government has thought it fit to ban the import of wires and cables, especially below 80 sq. in., which would mean that the consumer particularly, would find great difficulty in obtaining the requirements of these items.

Another example may be given of electric bulbs. There are several factories

in this country who manufacture first grade electric bulbs, but the output of all the bulb manufacturers put together is not even half of the total requirements of the country, and still the import of general lighting purpose lamps is completely banned, thereby causing the consumers any amount of inconvenience.

Very many more examples could be cited, but the examples which have been given above will suffice. What the country now needs is the removal of all restrictions on the import of electric materials so that the country may develop her electrical industries and resources to the maximum.

The great industrial countries, like England, America, Switzerland, Sweden and Germany, have seen decades ago the immense potentialities of electrical energy, and their respective governments have given every possible assistance to the manufacturers, the trade and the like, in producing materials of the highest possible quality and standards and have even seen to the fact that they are available to the general consumer at competitive prices. Our country, we might state, is one of the biggest countries in the world having immense potentialities to develop her resources to make not only the country self-sufficient for her requirements, but also to place her in a position to export. This can only be done by seeing what other manufacturers in the other parts of the world produce, and by importing such products in our country and encourage the local or indigenous manufacturers to produce such items to the highest possible standards on a large scale, and make it available to the public at very competitive prices by subsidising such industries and giving active aid in the import of raw material, machinery etc.

As everyone would be aware, India at present produces very few items, and that too on a very small scale. The items chiefly manufactured in this country are small electric motors, transformers of low capacity, wires, bulbs and fans. The production of all these put together is not at all sufficient to meet the needs of the country. In the electrical line there are thousands of items which yet remain to be produced in this country, and for the present the country has to rely on the imports, which as mentioned above, are severely restricted. The items which would be of great assistance to the country are the following:—

Underground cables, Mercury vapour and fluorescent lamps, radio valves, electrical instruments, X-ray apparatus, electric generators, electric portable tools, welding machinery, switchboards and apparatus, electric carbons, high tension insulators, electric steel tubular poles, electric cranes, hoists, trucks, etc.

The above examples are but a few of very many hundreds of items, which are major items and which yet remain unmanufactured in this country, and for which the country has to depend on the imports.

The development of any trade depends more on competition than anything else, but due to the import restrictions this competition is practically shut out, only a few firms who can claim previous imports get small import licences, which are scarcely adequate to meet the large demands of the country.

One wonders, therefore, as to why, in view of the present policy of the government to encourage the hydro-electric schemes etc., they should keep these old-fashioned controls in existence, and make them tighter as years go on.

Another existing feature of the government import licencing policy is that where articles are of little or no demand and whose utility is very little, are sometimes allowed to be freely imported, but those items which are in great demand are severely restricted.

Nobody would question the fact that the country needs conserving the exchange but the available exchange can definitely be better utilised by following a planned policy of imports, and for which purpose the electrical trade must be consulted before any import licence policies are framed, so that the trade can give its sound advice, so that the purpose of conserving the exchange by the government may be served on one hand and the consuming public on the other.



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 in the 'Power' to be of help to the common consumer]

FOR HOME & HEARTH.

A Little Electrical Language.

The term (ampere)-usually shortened to "amp" (named after "ampere") signifies the amount or quantity of current forced along the wire, cable, or other conductor by the pressure. The amperage determines the size of the conductor and the work done. Take an analogy with water; a great volume of water at a low pressure will require a pipe of large diameter; quite a small pipe will convey a quantity of water at a very high pressure (as in hydraulic main) and at the end of its journey, though it loses a little of energy by friction, it will do work.

We have noted the Volt and the Amp; electricity supply undertakings, do not charge by these quantities, but by the actual work done which is measured in "Watts". If we multiply volts by amps the product gives us this other familiar term, "Watts". A generating set in a power station, let us suppose, can give a current of 1,000 amps at a pressure of 500

volts. Its capacity is then 500,000 watts, or, better expressed 500 kilowatts (kw). Some of our large power stations have 30,000 k.w. sets, and 50,000 and even 1,00,000 k.w. generators are built. Every body knows that electricity supply undertakings charge so much a "unit" for current.

A unit, in this sense, is 1,000 watts for an hour, more briefly, one kilowatt-hour (k.w.h.). Therefore, a three k.w. electric fire will cost three annas an hour to run if electricity for heating and power purposes costs an anna per unit.

Electricity & Water Heating.

The advantages of electric water heating in the home are :—

1. This is the cleanest and the best method.
2. It is safe and practical.
3. An abundant supply is assured at all times.
4. It is extremely convenient—no fumes, no smoke and no dust.
5. An absolute control of the temperature of water is assured.
6. Supply is available at any time day or night.

With care and intelligence this method is cheaper than the method of using coal. One unit of electricity will :—

1. Raise the Temperature of 300 gals. of water approximately 10 F.
2. Raise the Temperature of 6 gals. of water approximately 50 F.
3. Raise the Temperature of 5 gals. of water approximately 60 F.

4. Raise the Temperature of 3 gals. of water approximately 100 F.
5. Raise the Temperature of 2 gals. of water approximately 150 F.
6. Heat 6 gals. of water to bath temperature.
7. Heat 3 gals. of water to washing up temperature.
8. Heat 2 gals. of water to boiling temperature.
9. Boil 1 gal. of water in thirty minutes (1,000 watts loading).
10. Boil 2 gals. of water in thirty minutes (2,000 watts loading).

Demand and cost of Electric Water Heating.

1. The average domestic requirement of a family of 4 or 5 persons is approximately 40 gals. of hot water for the day.
2. The temperature of water varies from 100° F to 150° F depending on the purpose for which it is to be used.
3. The consumers bill for electric water heating will depend on several factors, the most important of which are
 - (a) The rate per unit.
 - (b) The size of heater.
 - (c) The efficiency of the lagging used to prevent loss of heat from the water-tank and pipes.

If hot water for the household can be obtained by electric heating System, then the household duties are going to be considerably lightened and life is going to be made much easier for the house-wife.

Wiring for electric water heating.

It is advisable to run all water-heating apparatus, except very small appliances taking 500 watts or under, from the power circuit. A switch of adequate capacity should also be fitted to isolate the heaters when required. It is recommended that the cable should contain an earth wire for protection against shock. The controls should be placed out of the reach of the person in the bath.

Apparatus and Appliances for Water Heating.

To name a few, there are the electric wash boiler, water-heated towel rail, water-heated radiators and hot-water supply systems.

Hot-water supply systems can be divided under three heads:—

1. Geyser systems.
2. Local storage Systems.
3. Central storage Systems.

Under the Geyser system the water is not stored but is being heated to the desired temperature as it flows. Under the Local storage system water tank is fixed at the position where the hotwater is required and immersion heaters are also being used. Under the Central storage system a coal-heated boiler supplies through the distribution pipes to the various taps in the house.

Automatic water supply System-how it works?

The water is pumped from the well into a pressure tank. The rising water compresses the air in the pressure tank

and increases the pressure. When a desired pressure is reached, an automatic electric switch cuts off the current. The pump then remains in-operative but the water is still available at desired pressure from the pressure tank. The consumption of water lowers the water level and reduces the pressure in the pressure tank. When this reduced pressure reaches a desired limit, the automatic switch turns on the current and restarts the pump. The fresh water is again pumped from the well into a pressure tank and increases the pressure. This process continues 24 hours a day without any attention.

Note:—This efficient labour saving automatic device works without any attention and the water at desired pressure is available at any time just by opening the tap.

Daily water requirements.

For 1 person a day	... 25 gal.
For 1 horse a day	... 10 gal.
For 1 cow a day	... 12 to 30 gal.
For 1 sheep a day	... 1½ gal.
For 1 wash bowl each use	... 1½ gal.
For 1 flush closet each use	... 7 gal.
For 1 bath tub or shower each use.	30 gal.
For 100 Sq. ft. of lawn sprinkled.	10 gal.

FOR FARM AND FACTORY.

Installation of A.C. Motor.

1. The motor should be examined and all loose parts should be well tightened before installation.
2. Care should be taken to see that the motor is dried up after testing by a megger.
3. The motor should be installed in a dry clean and cool (not exceeding 40° C) place.
4. The foundation should be firm solid and level and the motor on its bed plate or slide rails should be securely bolted down. A concrete foundation should be set up to prevent vibration.

For Motors up to 10 H. P. the depth of the foundation should be about 2 feet and for higher horse powers it must increase proportionately.

Care and Maintenance of A.C. Motor.

1. Cleanliness is the first essential feature.
2. Weekly cleaning by removing all loose dust and dirt by means of an air hose, portable blower, bellows or brush should be done along with oiling and greasing and inspection of brush gear, sliprings or commutator.
3. Once a month measure the insulation resistance by means of a megger.

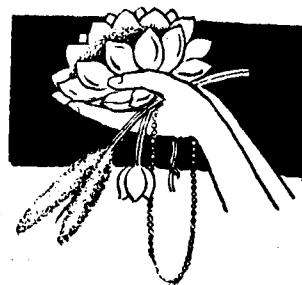
4. Annually, dismantle every part and clean and refit. Make the necessary repairs. The insulation should be attended to. Revarnish all end windings and internal parts. Check the air gap. Check all connections.

Centrifugal Pump.

One of the most interesting scientific advances in the engineering age is the centrifugal pump. It is a pioneer design, which is the outcome of age-long years of scientific study and practical utility of pumping problem. The centrifugal pump is a simple piece of mechanism, to draw liquids through the pipes to a desired height. The simplest form of the pump will have a rotating impeller equipped with vanes or blades, passing from the eye to the periphery of the impeller. It is all closed in a vacuum tight volute casing. A continual supply of water is picked up as the impeller rotates, by the blades and passes to the eye or boss. As it rotates,

the pressure of the water increases by centrifugal forces to discharge against the specific head. The liquid then passes into the casing where the greater velocity will be converted into potential energy, thus raising to the required head and delivering the liquid.

The centrifugal pump is designed and made according to the modern engineering theory and practice. It is of high efficiency, low upkeep, less attendance, and a cheap cost which are of importance to the manufacturer and consumer. The behaviour of a centrifugal pump is governed by a simple formula, which is well known among the engineering circles. When a pump is running at a constant speed the discharge varies inversely against the pump with the total head, that is, when the head is decreased the discharge increases. And at the constant speed, the efficiency varies according to 'duty', that is, the actual work the pump has to do. (To be continued).



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 over crowded, 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 "Power" will prove that Pride lies in Performance.]

Tariff & Trade.

At Torquay, the south coast resort of England, representatives of 38 nations representing more than 80% of World Trade assembled recently for negotiations on trade barriers and other allied subjects. There were many groups at the conference like Common Wealth group, Low Countries group, Dollar Country group etc. Lowering the tariff, return of Japan to world Trade, the Imperial preference system, the import restrictions etc., were some of the important subjects discussed in camera. India was one of the countries taking part in the conference expected to last for some months. The position of India was that preferences which she gave

to others were more valuable to them than those she received in return from them in view of the fact that her export consisted predominantly of primary goods while her imports were largely manufactured goods.

March of Power.

There has been a tremendous rush to buy power system equipment all over the world. The reasons are threefold: business activity and power consumption have been running ahead of estimates; low inventories that had been carefully banned were dependent upon an assured manufactures inventory. They were also based upon a decreasing price level. The prospect of an increase in prices and a firming up of demand caused a substantial change in policy: third, the Korean war was the final tip-off that a complete change in policy was necessary. Whether it is peace or war, the use of electricity continues to climb at unprecedented rates.

Trade with other Countries.

India's trade with France during the first 5 months of this year recorded a favourable balance of about 4.5 crores. Fertiliser, Chemical products etc form the major item of import while oil seeds, hides and skins, cotton and jute, the major items of export.

The finalised Trade agreement between India and Indonasia would provide for a direct trade of 40 million guilders annually each between the two countries. There are good possibilities in Malayan Market for Indian electrical goods and agricultural machinery.

On the Industrial Front.

The first Indian production of **brass-lamp-holders** was in 1943. There are about 20 factories in India spread throughout the

country except South India, which are established and developed after the war and which are engaged in the production of brass lamp-holders. The estimates of demand for electric brass lamp-holders will be about 30 lakh pieces per annum. They are purchased by large scale undertakings like railways, port areas, docks and factories. The raw materials required by this industry such as brass sheet, brass pipes, wires and rounds, the spring steel wire and porcelain insulators are readily available in the country. The quality of Indian made holders, though not conforming strictly to the relevant British Standard specification is fairly satisfactory according to the Government Test House reports. Lamp-holders made as plastics or bakelite are gradually replacing those of brass.

The industry is entitled to protection. The claim for protection was first made in October 1948. The Government referred the claim of the industry to the Tariff Board in April 1949, which has taken up the question. In 1948 there was a fall in production due to the heavy imports of foreign lamp-holders consequent on the inclusion of these articles in the O.G.L., during the second half of the same year. It is obvious that the industry is in a difficult position to compete with the imported goods. It is hoped that the Tariff Board will give the necessary impetus and protection for this industry which has developed sufficiently to-day.

The year 1921 saw the vision of the possibility of manufacturing fan in India. It was given to one Indian Engineer, an unassuming man of marked talents and deep convictions, to prove actually the possibility of manufacturing fans in India with ordinary casting and mild steel sheets available in the country. Then two engineering concerns in Calcutta started

manufacturing fans on his experiments. The merit of the fan was, it consumed at full speed only 50 watts as against the usual 120 watts consumption of imported fans. The Indian Electric Works acquired the sole manufacturing right of this patent and after hard struggle we find to-day in the market the popular India Fans both A. C. and D. C., both Table and Ceiling types. The current demand in the country is estimated to be about 200,000 per annum and the capacity of Indian Fan manufacturing industry stands at about 250,000. The I. E. W. is able to meet about half the demand.

Cables.

Due to a sudden rise in the price of raw materials, the prices of cables have gone up. V. I. R. cables by 10%, T. R. S. cables 15%, lead covered cables and Flexibles excepting P. V. C. 10%, Tinned copper earth strand, Braided earth wire and P. B. J. cables by 7½%.

Generated & Sold.

The total Electrical Energy generated in the Indian Dominion during May, 1950 amounted to 427.8 kilowatt hours. The total units of Electrical Energy sold in the Indian Dominion during the same month amounted to 343.9 million kilowatt hours. The amount of Electrical Energy sold for Domestic consumption, Commercial Light, Industrial Power, Traction, Irrigation and Public Water Works and Sewage pumping registered an increase, while Public lighting only recorded a decrease.

India Govt. Import Policy.

The Ministry of Commerce has brought out a hand book of Import Trade Control containing up-to-date information of Import Policy and procedure and the steps

be taken by intending importers to obtain licenses. It is a priced publication obtainable from the Manager of Publication, Civil Lines, Delhi.

Tender Notices.

Government of Madras Electricity Department.

Muchkund Hydro-Electric Scheme (I stage)
Specification E. 184.

Erection and testing and setting to work of the carrier current equipment for operation on 132 K. V. Transmission lines, of the Muchkund System and also for V. H. E. Radio Equipment.

Last date—15th December 1950.

Apply to Superintending Engineer,
(Technical)
157, Mount Road, Madras. 2

Government of Madras Electricity Department.

Pykara - Coimbatore and
Coimbatore Madura
110 K. V. lines.
Specification E. 180

1. 50 miles of Single Circuit 110 K. V.
line from Pykara to Coimbatore.

2. 125 miles of Single Circuit 110 K. V.
line from Coimbatore to Madura.

Last date—18th January 1951.

Apply to Superintending Engineer,
(Technical)
157, Mount Road, Madras, 2.

Around the Market.

During the last week of September, Trading on the Madras Market stock exchange had a small turnover and

narrow fluctuations in prices due to various facts. The postponement of decision on exchange rate of the Pakistan Rupee, weaker advices from Calcutta, the prolongation of the textile strike in Bombay led to the restricted volume of business. The peace prospects in Far East had its influence also. Calcutta had also lethargic condition in stock exchange. The Kashmir issue was upper-most in the minds of business-men. Engineerings were easy in Bombay market. Practically the rot had set in due to general expectations about an early end of the Korean War.

In the beginning of October, the advance of South Koreans beyond the 38th Parallel induced a firm tendency in the markets but there was a lot of conjecture about the further development of the Korean conflict. There was a slump in Indian irons following reports of fresh issue of capital and continued firmness of textiles were the outstanding features of trade during this period. Agreement of details of a trade pact with Indonesia was reported. The decision of Canada to test her dollar in the free Market was to oblige the Commonwealth countries rather than one decided by economical circumstances. Interest in shares of electricity supply undertakings continued and there was an all-round rise in electricity shares. All sections were easy but with limited business.

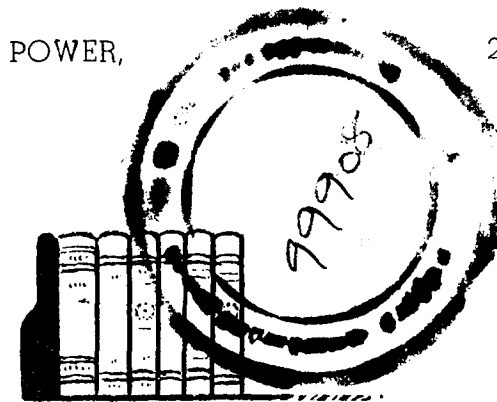
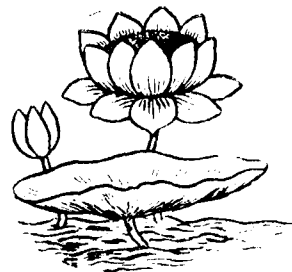
Then the tempo of the war economy was already beginning to be felt. There were some people who thought that the Korean War would be spread and China would take a hand in big war on the side of Russia though war was not helpful for Indian economy. In Bombay operators generally were disinclined to extend fresh commitments in view of uncertainties regarding the textile strike and war

situation in Korea. Dalal street in Calcutta witnessed a dull season due to caution and hesitation. The market was not moving up. Experts in the United States were said to believe that international trade had a more promising out-look to-day than at any time since last war.

By the middle of October there was encouraging news of the end of textile strike in Bombay and Pundit Nehru's joining the congress working committee. But this news could not enliven trading sentiment on stock exchange. There was a general impression that stagnation in the market was due to general lack of faith on the part of the public in current levels for equities. The proposal for a capital levy,

notwithstanding that it came from the high pedestal of the Congress president, had hardly caused any flutter in Industrial and Business circles. Mr. Mahtab's assurance that there was no question of nationalisation of industries except those of the type of iron and steel had not enthused any one. It was rightly said that it was only a displacement of the bogey of nationalisation by another one of state managerialism.

The announcement of the directors of the Indian Iron and Steel Co. Ltd. caused commotion on the stock exchange in Calcutta. The annual meeting of the All-India Organisation of Industrial employers was worthy of note.



Books & Brochures

"Knowledge is Power"

Electric Power Stations. (Two Vols.)

(By T. H. Carr. 3rd Edition published in London in 1947.)

The two volumes deal with the general principles governing design construction and operation of Power Stations. In view of the last Post-War generating programmes and work now undergoing instructions, much attention is being given to Electric Power Stations practice. In these days of rapid electric development the Power Station is probably the most important part of our electricity power under-taking.

The two volumes by Carr constitute a most interesting review of the latest practice in design etc of Power Station Plant. Volume one consists of Nine chapters like fundamentals of station design etc with numerous illustrations, with bibliography. Volume two contains fourteen sections like alternators, cabling and cables, organisations etc with illustrations as in volume one. The books will be found to be of interest by the Electric Engineer and the student alike.

The range extends into the civil, mechanical and electrical fields. The Author's task has been far from an easy one, but he has fulfilled it in a manner that does credit not only to himself, but to the engineering Literature.

The Efficient use of Fuel.

Prepared under the Direction of the Education Sub-Committee of the Fuel Efficiency Committee of the Ministry of Fuel & Power. Published at London and reprinted in 1948.

It is not a book of reference to be placed on the shelves of libraries and to which occasional reference is made. Each chapter of the 34 chapters is meant to be read by the student. Many leading authorities have assisted in the compilation of this book. The stress and strain of the last war have led people to realise the value of coal resources. The efficient methods of using fuel are now attracting the attention of experts and technologists. The present work is the outcome of this. It consists of chapters like Industrial fuel (coal), the storage of coal, steam boilers, gas producers, furnaces, oil and its utilisations etc with appendices. On the whole, the book may be regarded as part of a live and progressive movement, directed not only to the betterment of the present supply situation but to an improvement in the efficient use of mineral asset.

The Trend in Engineering.

Published quarterly in January, April, July, and October by the Engineering Experiment Station at the University of Washington to reflect the current high lights of its accomplishments and to report progress in its programme of investigation and research.

General.**6,000,000 Copies Sold:—**

This was the sale of the book "Gone with the Wind" by Margaret Mitchell Marsh, the American author, since 1936. The author who died in 1949 in traffic accident, stepped from obscurity to international fame and became the property of the world. Translations of the book have been made for Norway, Sweden, Finland, Denmark, Italy, China, Czechoslovakia, Germany, Hungary, Latvia, Poland, Greece, Rumania, Brazil, Belgium, Yugoslavia, and Palestine Etc. Birth, death, lust, greed, avarice, hunger, hate, jealousy, love, humour, happiness and loneliness—all are depicted with tremendous stroke of the imagination. It is a simple theme: survival—the emergence of the strong from Chaos. It is the sermon of the Atlanta and the American South told in terms of symbolic people.

Mahatma Gandhi.

By Jawharlal Nehru (Signet Press, Calcutta). This is a collection of writings on Mahatma Gandhi by Pundit Nehru whom he named his "chosen heir", his spiritual and political successor. The

writings coming from the pen of one who has worked with Gandhiji for more than 30 years and who plays his part with critical and independent eyes, have a quality that could not otherwise be met either by objective study or personal anecdote. The life and teachings of Gandhiji are shown in action and portrait from a young barrister in South Africa to a glory departed. The book is of 173 pages in a fine get up and the proceeds of sale go to the Gandhi Memorial Fund. "A glory has departed and the sun that warmed and brightened our lives has set and we shiver in the cold and dark. ... We mourn for Bapu and feel orphaned. ... The last journey has ended. The final pilgrimage has been made. For over 50 years Mahatma Gandhi wandered about all over our great country and visited every part and corner in order to understand and serve the Indian people. ... He brought us to freedom and the world marvelled at the way he did it. ... We have to do our duty and fulfil the pledges we have given him. Let us tread the path of Truth and Dharma. ... Then only shall we be worthy to say "Mahatma Gandhi ki Jai".

**News and Notes**

"Whate'er the busy bustling world employs,
Our wants and wishes, cares and joys,
These the "Power" of our times display,
And call them News & Notes—the
hodge-podge of the day."

PERSONALITIES**J. N. Tata.**

Jamshedji Nusserwanje Tata (1839—1904) is a well-known figure in the world of Indian Industry and its Industrial revolution. Born in a Parsi family engaged in trade, qualified himself as a lawyer he took to business. His wide foreign travel taught him that raw materials were exported at cheap rates from India to foreign countries who manufactured goods by machinery and sold the same at higher prices, and this caused the economic deterioration and unemployment in the big land of India. His Empress Mill at Nagpur, Swadeshi Mills Co. Ltd., his association with silk industry in Mysore, his construction of Taj Mahal hotel in Bombay, his connection in the shipping trade and the public institutions are all well-known. His 3 huge schemes (viz) The Tata Iron & Steel Co., at Jamshedpur, The Bangalore Institute of Science and the Electric Power Supply to Bombay were sown seed in his life time. And to-day they are the three big assets in Industrial India under the management of his two sons.

The country owes a great debt of gratitude to this great man, the uncrowned businessking. He started an industrial revolu-

tion in the country and fought against odds, lost and earned wealth after wealth more for his country than for his family. A Karma Yogi as he was, his perseverance, honesty, ability, self-sacrifice, all these and many more qualities stood him in good stead.

Mrs. Henry Ford.

Mrs. Henry Ford died recently at the age of 84. In her own words she and her husband were partners in the business of life. Her life was largely dedicated to her husband in whom she never lost faith. She remained a simple woman to the end of her days. She always did her own cooking. Rarely she hit a headline, though Mrs. Roosevelt is an exception.

MATTERS.**Pacific Relations Institute.**

The 11th conference of the Institute was held recently at Lucknow. Pundit Nehru inaugurated the conference. His address, whose depth and sincerity went home to the hearts of all listeners, stressed the nationalistic spirit of every country in Asia, the scope and power of non-violence in this warring world and above all the spirit of toleration and sympathy among the various nations. Various round table groups were formed and discussions were held on political factors and movements such as Communism, Nationalism, Economic questions etc., by the delegates and observers from countries like Canada, France, Japan U. S. A, Australia, U. S. S. R, etc.

Textile Strike.

The textile strike, supported by the Socialists, began in Bombay on August 14. The strike arose with the demand of three months' wages and allowance as bonus instead of the award of two months' wages as bonus given by the Bombay Industrial Court on July 8. The strike which was a failure, was a clear repudiation of the

judicial machinery for the settlement of disputes. In the circumstances, the Government could not respond unless it was withdrawn.

The textile industry in Bombay city produces about 4 million yards of cloth and one million pounds of yarn per day. The total value of daily production is about Rs. 50 lakhs. Due to strike, the average daily loss in piece-goods production is about 35 lakhs yards and the labour's loss in wages is about Rs. 7½ lakhs per day. The total no. of workers engaged in the two shifts was about 2 lakhs and the gradual return of the workers was a good sign. This two-month old strike had been called off on October 15th, after the announcement of Appellate Tribunal which upheld the Industrial Court's award, of giving two months wages as bonus. The Workers had lost about Rs. 4 crores in wages, the Industry had lost a total business turnover of about Rs 23 crores.

Foreign Banks in India.

The two broad classifications of banking institutions are (i) Co-operative and (ii) Commercial. We find two categories under the latter classification (a) Foreign Exchange Banks and (b) Indian Banks. Amongst the Indian Banking Companies there are a few who are engaged in foreign bills business and other exchange transactions. But the business so transacted cannot rightly be said to be of regular business.

Among purely foreign banks working in India and doing business in foreign exchange may be mentioned Lloyds, Chartered, Hong Kong, Grindlays etc., who, with net-work of branches all over the world, are under a great lee-way in the commercial life of the country.

The foreign exchange business is almost a monopoly of these banks and is very lucrative. These banks have a wide

scale overseas branch business in remittances being made from India by cheques and drafts or in postal order. The Drafts and Bills departments also work at full speed. The backbone of these Exchange Banks is in foreign bills, hypothecation and market transactions. Market researches, intelligent market forecasts, local share speculations also form part of the work of these banks. Thus we find these Exchange Banks have the dual parts to play to work as local bankers in line with other Joint Stock Indian Banks, as also do foreign exchange business which, however, is the principal business. They are conservative in expanding and opening branches in different parts of the country forming an internal net-work. Yet their positions are very respectable based on the policy of honest, strict and systematic pursuit of business. Respectability is the keystone of the success of the banking structure and this should be realised by many Indian banking companies, who should work in strict order and try to limit the working of these foreign exchange business through the help of the Government and the Reserve Bank of India, so that they may grow and flourish in their own spheres and activities.

Biggest.

The World's Biggest Trust Fund of 200 million dollars was announced by the Ford Foundation for Peace. A seven-man Board of Trustees was appointed for the same.

Retirement.

Gregory I Tour, the electrical engineer for the Tennessee Valley Authority (U.S.A) has retired. A native of Russia, Tour designed and supervised electrical installations in several European countries before coming to the United States in 1915. He joined TVA in 1936 in the electrical design branch.

City Father's Feat.

The Madras Corporation installed during the year 163 Mercury Vapour lamps in important thoroughfares of the city. Improved lighting was provided at 65 junctions. 666 additional lamp-posts were installed. About 13 miles of low-tension mains were extended.

Good-Will Mission for Hindi.

The Hindi Good-will Mission had been on tour in South India to study the progress made by South Indians in learning Hindi, and to take the best from South Indian languages and enrich Hindi.

Common Wealth Ministers Conference.

The conference which ended recently at London satisfactorily unanimously adopted a draft report containing the six year economic aid of developing Pakistan, Ceylon etc., Notwithstanding the two great difficulties (viz) the shortage of trained man-power and the shortage of capital, the programmes contemplated were concerned with increasing Agricultural output, improving Roads and Railways, developing new source of Power, Industrial development etc. India's plan alone would require Rs. 800 crores of external aid over the six-year period. The nebulous start made at Colombo and the results achieved in London, we hope, would offer the promise of a better life for over 500 millions in Far South East Asia.

Delimitation Scheme.

The Madras Assembly and Council discussed and adopted recently the Government proposals for Delimitation of constituencies for the coming general elections in April-May 1951, under the new constitution to the Legislative Assembly and the House of People. 375 seats were allotted to the Assembly out of which 309 would be general seats and the rest reserved seats. The House of People

would contain 75 seats out of which 62 would be general seats and the rest reserved ones. Reserved would be plural member constituencies each of which will have two seats one general and one reserved. All other constituencies would be a single member constituency. The proposals would be submitted to the Delimitation Committee which would finalise the arrangement.

President & General.

President Truman & General Douglas MacArthur met recently at "lion's den" in Pacific and discussed 'satisfactorily' about problems relating to the Far East with special reference to Korea, Japan etc. The advance of the South Korean Troops and the U. N. Troops beyond 38th parallel into North Korea was sanctioned by the United Nations Assembly who were discussing ways and means of solving the Korean Problem.

SPORTS.

Sport.

Sport has become Australia's biggest and best medium of publicity. They are proud of their records in Tennis, Swimming, Women's 100 yds, Cricket Test against South Africa, Rugby against England.

Chess.

A national Chess Federation for India has been formed in Bombay. Chess is the most popular pastime of villagers all over India even though India has not yet found a place on the chess map of the world.

Boxing.

The 29-year-old Ezzard Charles beat Joe Louis, the 30-year-old, in the recent World heavy-weight boxing Championship at New York. Louis held the title for more than 11 years and set the record by defending it successfully 25 times.

Rugby.

Ceylon retained the title in the All-India Rugby Tournament defeating Calcutta Football club by 3 points to nil.

Billiards.

The All-India Amateur Billiards Championship will be held in Calcutta in December. The winner will represent India at the world championship at London, 1951.

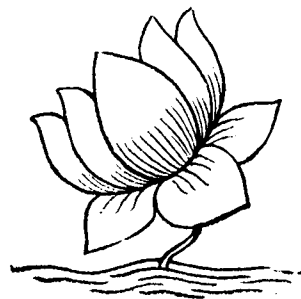
Ladies' Luck is revealed by the recent organisation of the competition for ladies in Billiards on an All-India basis. This will commence in December.

Table Tennis.

Hong Kong's supremacy was established in Table Tennis by the recent matches played in Singapore, Malaya etc., in which the Indian Team took part.

Badminton.

The All-India Badminton Association had drawn up a Rs. 9,000/- scheme to coach a dozen leading badminton players or selecting a strong team to represent India in the next World Badminton Championship for the Thomas Cup.

**Hockey.**

India will be represented at the meeting of the Federation (Spain) which will decide the venue of the preliminary rounds of Hockey matches in 1952.

Cricket.

The M. C. C. Team played a one day match at Colombo on their way to Australia and ended in a draw.

The Common Wealth Cricket Team in India had a series of matches at places like Bombay, Rajkot etc., before they reached Delhi to play the first test.

H. E. the Governor of Madras laid the foundation stone of the Municipal Cricket pavilion at Mangalore which had produced many good Cricketers,

The Board of Control for Cricket in India has decided to run the All-India Inter-School Cricket Tournament for the Cooch-Bihar Trophy this year on a zonal basis.

Here & There

[Those who read the 'Power' may be able to find here a fun and there a frolick, here a pinch and there a punch, here a soup and there a saucer.]

Do You Know ?

The tallest man in the world Ted Evans (Surrey) is 9 ft. 3½ inches. He is aged 26 and is still growing. He finds that his life is hard; one problem is clothes which he out-grows in a few months, the second problem is his boots which are to be specially made at a cost of Rs. 260 a pair and which are to be changed very often, the third problem is travelling in which he finds himself cramped in bus and in train, the fourth problem is accommodation in hotels which have no beds long enough for him.

Dome of Discovery.

At the Festival of Britain which will take place next year, there will be an exhibition in which visitors can telephone to the moon through radio telescope. The caller has to press a button and send a radio pulse of high frequency flashing into space. It will have a wave length of 1½ meters and will be passed from a giant saucer made of a net-work of aluminium. The progress has to be watched in a large cathode ray tube. Then the signal comes bouncing back from the moon, 477,720 miles away, within 2½ seconds and the image in the tube will be a little "kick". A supplementary tube will enable this echo to be magnified. It will be a free call.

Nationalisation !

In a mock parliament at Karwar a bill was passed to wipe out the indulgence by lawyers in the private practice of Law, for monetary considerations.

Lawyers License.

No objection is officially recognised to legal practitioners appearing in courts, if they so desire, wearing Gandhi caps instead of turbans.

Pictures, Not Theatres.

The survey conducted by the U. S. Department of Commerce in June 1949 covering the theatre the world over reveals that India showed the greatest percentage of increase in theatre construction. In 1947 the undivided India had 1605 permanent theatres; of these 352 theatres went to Pakistan on partition, the balance of 1253 was the quota of Indian India. In the course of 2 years, the No. in Indian India has gone up 2200. In South India there are about 400 permanent theatres and about 700 touring cinemas.

India produces about 253 pictures a year. The import of foreign pictures is about 400 a year. Hence they are unable to feed the permanent theatres and touring cinemas. Therefore put a stop to theatre construction is the needed advice at the present moment, even though the electrical wiring world will curse the same and loose much by such a step.

Punter's Pluck.

The news from Auckland (Newzeland) reveals the invention of an electronic totalizater. It is believed to be the only machine in the World. It incorporates features and contains thousands of values broken up into units which receive,

transmit and count electrical impulses each of which represents a bet.

Decline & Fall of the Male Empire.

Wanted Private Agency to work in strict confidence for a Madrasi who wishes to find out where his wife disappears between the third and sixth races at the coming Guindy Race. Apply C/o Anonymous.

Like What You do.

"Like what you do, rather than do what you like. You cannot plan a career. I started as a Botanist and ended as a Banker", so said Mr. Deshmukh, Indian Finance Minister at an address to Indian students in London.

Himalayan Gods Electrified.

Even Himalayan Gods need electricity. The electrification of Badrinath Temple at a height of 12,000 feet in the Himalayas was completed recently. This was the first temple in the Himalayas getting electricity.

Help!

A new electric signal system stops machinery at the cry of 'help'. This is done by wireless waves and a microphone so selective that it reacts only to the key-words chosen.

Three Things.

Any girl who is getting married thinks of just three things. Aisle (I'll) Alter (ALTER) Hymn (HIM)!

Fond of Books.

A husband complains that his wife loves books; there is one she will never put down till she finishes it - his cheque book!

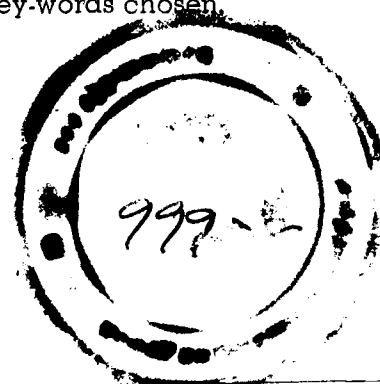
The remedy is "don't have bank account" (Ed)

Scarcity.

The scarcity of women is felt in India. Women are less than half the total population. According 1941 census figure, the females per 1,000 males is 934. The proportion of females to males becomes less as one proceeds from south and east to the north and west of India. In the United States and some selected European countries males are comparatively scarce.

Thought for the Month.

"Speak no evil: see no evil: hear no evil"
—the rule that guides Gandhiji's life.



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