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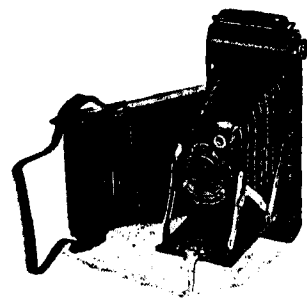
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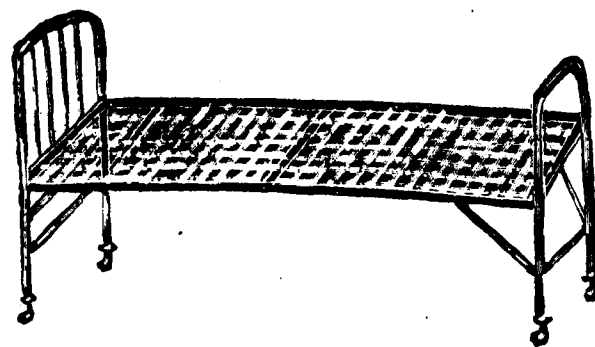
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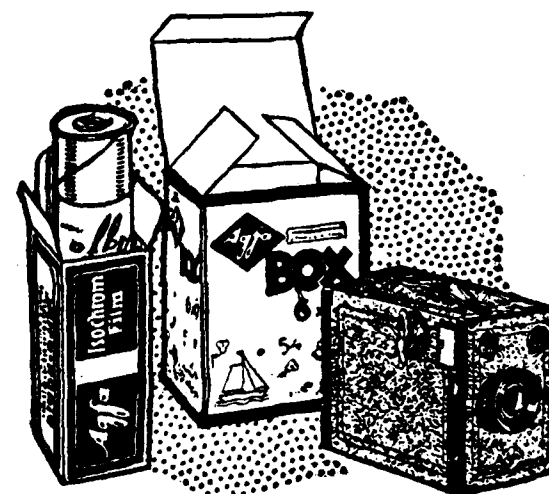
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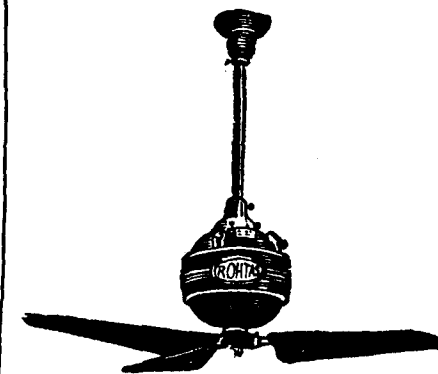
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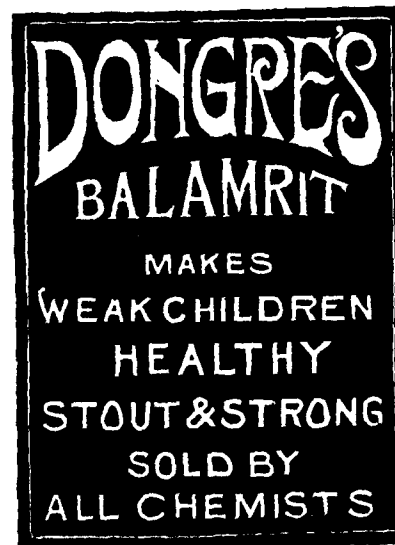
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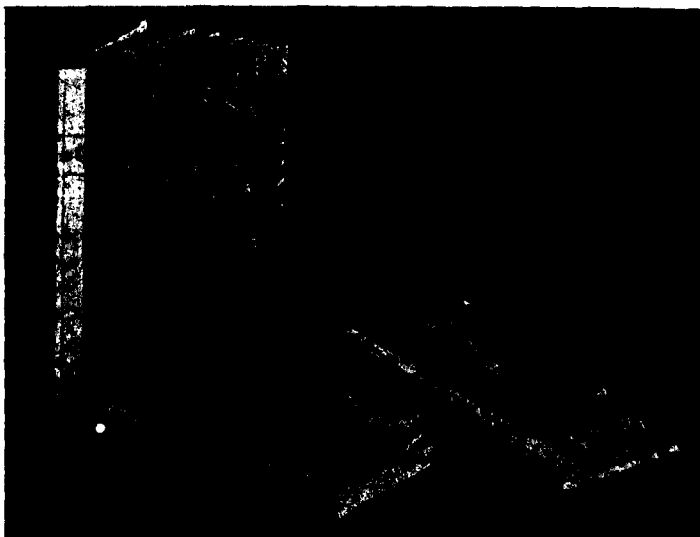
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ALL INDIA TRADE MAGAZINE

MONTHLY PAPER OF INDIAN INDUSTRY, COMMERCE, PRINTING, STATIONERY

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AUGUST 1933

"It is the small things of the world that colour the lives of those around us and it is on persistent effort to reform these that progress depends; and we may rest assured that they who see with greater eyes than ours have a due estimate of the service and that if we did but perceive, the mighty principles underlying these tiny things, we should rather feel awed that we are entrusted with them at all than scornful and impatient that they are no larger."

OCTAVIA HILL

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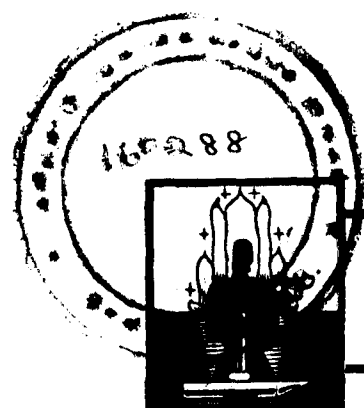
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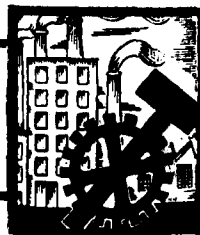
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INDUSTRY



Brick—the Historian

*The oldest man-made building material has come down through the ages to play an important part in our own history.....
Even to-day in some sections, brick-making has changed little in 300 years.*

THE oldest man-made building material, brick, has come down through the ages to play an important part in the history of the United States. The history of liberty, legislation, education, and religion is all indelibly marked for posterity by the structures of brick which remain, mute evidence of the progress of man. History, in turn, should be thankful for the mile-stones of burned clay which have so carefully preserved for the present generation the history of peoples of 300 and 3000 years ago—and even previous to that. For, neither by fire, frost, flood, nor even by time, are well-burned clay bricks destroyed.

Legend has it that the god Canaan came from man's original home in the Eastern Seas to teach the Sumerians how to make brick. He probably was that same god to whom the Babylonians refer as "the God of Brick." The Tower of Babel, that seven-stage Ziggurat Babil, is one of the many interesting structures unearthed by excavations in Sumeria which give proof of the antiquity of bricks, and the Sumerian Palace at Kish, from which Mesopotamia was ruled 5000 years ago, is another. Even 5000 years before that—some 10,000 years ago—preserved for us by the ever-wearing qualities of brick, are mute evidences of a civilization aptly called "The Age of Brick."

Brick Tower of Babel.

Probably of all ancient brick structures that have endured throughout the ages, none are more interesting than the Tower of Babel. Inscriptions on the bricks that compose the mighty foundations (not yet completely un-earthed), as well as the newly discovered records, prove its identity beyond a doubt. The tower was also known as Etamenanki, "the foundation stone of heaven and earth," which further identifies it with the account in Genesis of this famous brick tower, whose building followed this decree:

"Go to, let us make brick, and burn them thoroughly.....let us build us a city and a tower, whose top may reach unto heaven."

Kings of various eras helped in the improvement of the structure, and in the restoration of portions that suffered from the attacks of the invaders. No less than six pavements have already been found. The two upper ones are of King Nebuchadnezzar, who calls himself

"fosterer of Esagila (a temple included in the Tower) and Etamenanki" on every one of his millions of bricks, and the next two of King Sardanapalus, whose prouder boast, inscribed on each brick, is that he made it.

The bricks of the two lower pavements are not marked, showing that they were put there before the custom of inscribing the name of the maker of the bricks was introduced.

It now appears that the "slime" forming the "mortar" mentioned in Genesis was really an excellent bitumen, of which there are traces in ancient springs.

The Bible refers to the manufacture of brick a number of times and at least once mentions the mixing of straw with the clay to make strong bricks. This expedient is not necessary to-day, and was used in biblical times only because the clay used was of a silty character, and the straw was necessary to hold the clay in shape until it was burned. The straw also prevented, or tended to prevent, the formation of cracks as the moulded bricks were dried in the sun. To-day's methods of protecting brick with sand on the open yards, and furnishing heat with the proper humidity for the drying chambers (where they are used), eliminates the necessity for such a binder. Even to-day, in foreign climes, where inferior clays are made into sun-dried bricks, straw is an important ingredient.

Brick-making Here in 1629.

And so with this brief background of ageless antiquity, we jump over the span of years to 1600 A. D. to see the part that brick has played in the early days of our country. Starting with the John Smiths of Jamestown and the Pilgrims of Plymouth, and to the present day, interesting history has been made and perpetuated in brick. As early as 1629 we find that the Reverend Francis Higginson had set up at Salem, Massachusetts, in the manufacture of brick. This was probably a side line to his regular business of preaching the gospel, but equally as important as a necessity to the welfare of his people.

The Rev. Higginson wrote under date of 1629:

"It is thought here is a good clay to make bricke and tyles and earthen-pot as need be. At this instant

we are setting a bricke-kill on worke to make bricke and tyles for the building of our houses."

But Salem was not long alone in the manufacture of brick, for in 1636 the General Court of Massachusetts Bay Colony granted to Thomas Mount of Boston "leave to fence in a piece of marsh before his house, for the making of brick in, at the pleasure of the overseers of the towne, and at their appointment to lay it open againe."

Brickyard on Boston Common.

In 1660, records show that the General Court ordered the Selectmen to accommodate "Richard Gridley and ye rest of brick makers in towne.....with what land may bee fitt for their use in ye most convenient place" on Boston Common. So we can understand that besides its use as pasturage from which wandering cows made the paths which were later streets of Boston, and aside from its use as a coasting place for the young patriots of General Gage's time, the Common was of use as the location for brickyards for the manufacture of the brick from which Boston was built. The depression wherein lies the Frog Pond to-day is believed to be the result of the digging of clay for brick manufacture.

However, this legislation to permit the manufacture of brick was not the only legislation of interest. Boston was scourged by fires eight times up to 1711, and after many of them, legislation tending to reduce the fire hazard was enacted by the General Court. The laws passed were probably the beginning of the Building Code as we understand it to-day.

In the orders of the General Court, they did not forget quality of construction as an important consideration in the building of structures safe from the ravages of time and fire. In 1679 the General Court ordered:

".....that clay to make bricke shall be digged before the first of November and turned ouer in the moneth of February and March ensueing, a moneth before it is wrought, and that no person temper their bricke with salt water or brackish, and that the size of the bricke shall be nine inches long, two and one-quarter inches thick and fower and a halfe inches broad.....and that all moulds be well shod with iron....."

It is to be noted that "salt water and brackish" were forbidden, presumably to prevent the formation of a crust of saline particles on the brick upon the evaporation of the water. The size was regulated, and in 1684 another order of the General Court considered the finished product as well as the order of 1679 considered the raw materials. This new order provided, among other things, that all brick should be full size after burning, and that at least three-quarters of all brick shall be "harde and thorough nealed ware, and not sunne bricke." To enforce this order the Court provided for the appointment of "Two or more able men, each of which shall haue power to view, divide and cull all bricke."

Stamped with Town's Initial.

And after all this legislation, Boston, becoming brick-conscious and proud of the "local output, and particularly jealous of their quality and reputation," required by ordinance in 1713, that all brick made in the town should be stamped with the letter "B."

Brick-making in the early days of our country, and its connection with the legislation of the time, was but a part of the history intimately associated with brick. The fight for liberty centers around buildings made of these same brick which were so definitely legislated into the superior product of to-day.

Faneuil Hall, the "Cradle of Liberty"; the Old State House; the Old South Church with its liberal attitude still sustained; Christ Church, known as the Old North Church, and connected with the exploits of the son of one Appolos Rivoire (Paul Revere); the oldest brick building still standing in Boston, the House on Marshall Street; the Powder Houses at Somerville and Marblehead—all these played their parts in the struggle for American liberty.

More than 250 years ago, in 1660, was constructed the building still standing on Marshall Street, in Boston. It is the oldest standing building in the city, and appropriately is of brick. Originally an inn, it was in 1737 owned by James Davenport, the brother-in-law of Benjamin Franklin. Later, it became the property of John Hancock. It was here that the French loan of two million crowns was stored, and paid out to the last of the ragged soldiers of the Continental Army. During the Revolution, Washington, Hancock, Lafayette, Generals Greene, Gates, and Heath met here for a discussion of the tactics which led to a successful consummation of the War for Independence. So far as is known the oldest building standing in the city of Boston, this site remains unmarked and unknown as the monument to liberty it is.

Besides the numerous churches of brick and their relation to the religious and revolutionary life of the Colonies, brick also played an important part in Boston's public and private schools. It provided a means for sheltering and perpetuating the doctrine of free education.

"Sixe Pence An Acre Forever."

In 1649, Thomas Mount, famous as the first manufacturer of brick in Boston, extended his business of brick-making to Long Island. He was one of those who "Bind themselves and their successors to paye sixe pence an acre for their land at Long Island byc the yeare forever; and that to be for the use of the Schole;....."

This amounted to a school tax to help support the first free school, and tradition tells us it was the original "little red school house," located near the corner of what are now School and Tremont Streets, opposite the Parker House and near the present somewhat antiquated City Hall. Built in 1635, it was called the Boston Latin School.

The oldest college in New England, Harvard, started its influence on Boston and on the whole country with the erection of its first building in 1636. Practically every building since 1682 has been of brick, a precedent followed by many of the larger universities of the country. In 1720, Massachusetts Hall was built, and this remains as the oldest of the college buildings despite the fact that in 1924 the Hall was gutted by fire. The walls remained; and more than 200 years after it was originally built, it was rebuilt, utilizing the same walls.

Serving first as a dormitory, then as a barracks for soldiers during the Revolution, then for lecture and class rooms, it is now being used, as first intended, for dormitories.

290-Year-Old House Still Standing.

What is claimed to be the oldest house in this section of the country still standing is that of Governor Cradock, the first Governor of the Massachusetts Bay Colony, at Medford (Meadford). Although Governor Cradock never saw this country, it was at his order that the house was built in 1634. Still in use as a dwelling, it is of interest because of its small round windows, reminiscent of the fort for which it was used during attacks by the Indians. Before the seventeenth century was out, other houses of brick had taken their place in history; and still standing are the Garrison House and the Royall House, both located in Medford and both steeped long and deep in the troubles of the time.

Celebrities from beginning to end, Washington, Noah Webster, Daniel Webster, Andros, Cradock, John Adams, Samuel Adams, James Otis, Longfellow, Franklin, and scores of others whose efforts made history, albeit not realized at the time perhaps, have come down to us through the association of their sections with the well-preserved and time-defying structures of brick with which they were so intimately connected.

Brick-making To-day.

To-day in some sections of New England, we find the manufacture of brick going on in a manner not far removed from the methods used nearly 300 years ago. Perhaps this lack of advance in the manufacturing methods is due to a desire for brick closely approximating the product which has proved itself through generations of use. The clay still dug and turned by hand, still mixed with water by the old pugmill run by the horse travelling in a never-ending circle, still moulded by hand in the manner of the Babylonians, still dried in the sun and fired in scove kilns, are methods still employed to reproduce in to-day's manufacture the waterstruck brick so popular during the struggle of the Colonists for existence and so necessary for their existence. Waterstruck brick and sandstruck brick, incidentally, differ from each other primarily in that water is used in the moulds of the former to keep the clay from sticking, and sand is used in the latter.

It would be wrong to leave the impression, however, that no advance has been made in the process of manufacturing brick. In the larger plants to-day the digging of clay is handled by steam shovels, Diesel engines run the pugmill, the automatic moulding machines, and the conveyors on which the moulded brick are carried from moulding machines to driers. Drying of brick is done by steam from oil-burning boilers, and tractors draw trucks of dried brick to the kilns for setting. The bricks are fired with oil instead of wood, and are hauled to the job by trucks. So modern progress has, in some plants, brought to the builder a brick of lower cost, greater uniformity and strength, but still little different from the hand-made brick of hundreds of years ago.

Oil-Power.

A Great and Important Field

for manufacturing Trimmings, Boots and Shoe Laces, Saree Borders etc. By Rustomji N. Bapasola

UNFORTUNATELY very little or no attention whatsoever is being paid by our large number of progressive Industrialists in starting a distinct and specific Industry for manufacturing Boots and Shoe Laces, Irish trimmings, Borders of every description, Saree Borders and Trimmings suitable for ladies dresses etc.

If we glance at the imported figures which runs into several lakhs of rupees per year, we can easily judge that such an Industry can obtain a great success if carefully managed. I understand recently in Punjab attempts are being made to start such a factory but so far I have not heard any such factory being started in different centres of India. Most of the raw products can be obtained from local mills. Only various types of Braiding machines and tape-loom are required to be imported from foreign countries.

I therefore draw the attention of the Industrialists to this most important Industry.

Many firms in Germany, Czechoslovakia and Italy are in a position to supply up-to-date plants to produce such articles and I trust enterprising Indians will take up this line in right earnest and I am confident that they will obtain proper success.

Before starting such an Industry it is necessary that the following matters be made certain:—

1. Adequate capital of Rs. 40,000/- to Rs. 50,000/- is required out of which 10 to 15 thousand rupees will be required for machineries and erection. The balance amount must be utilised for the purchase of raw materials, finished products and for making proper organisation for sales, purchases etc.

Continued on page 308

What are the Reasons of Failures

of Industrial Developments in India and how to obtain success

DURING the last several years we find that many new enterprises have been started and most of them did not obtain appreciable success. Large number of Limited Liability Companies were started in different branches of trade but very few of them have obtained some success. Whilst closely examining I found the following defects which are required to be remedied:—

1. Many enterprising people start Industry without having any knowledge in that particular line.
2. Some of the persons possess some knowledge but are unable to utilise the same in practical way.
3. Some people possess sound knowledge and are also able to utilise the same in practical way but are handicapped for want of finance, organisation and sales.
4. Large number of commercial and influential business-magnates usually take up things but most of them are lacking in practical knowledge.

Several important persons start certain concerns and sell away the company at a fabulously high price to the Limited Liability Company with perpetual arrangements of working as the Managing Agents and they are unreasonable and these people get all the benefits with little or no investments, with or without skill.

The most of all above people who are either Business Organisers, Managing Agents or Managing Directors or Governing Agents for life time or for indefinite period are controlling the entire business, engage very often the services of so-called experts. They have predominant right of engaging as many people as they like. They form the Board of Directors of Board of Management which carries out the instructions as they may like.

Further some of these firms are investing most of their capital in building, plants and machinery and unfortunately there is hardly any capital left for working such factories. Hence they have to borrow money from their friends, relatives, financiers, brokers etc. and on a fabulously high rate of interest or they mortgage their property, possessions etc. and when they fail to fulfil their obligations by way of interest or returning their amount the whole factory is put to auction or sold away or taken possession by the mortgagee, or those who have invested the money and these are the basic reasons of failure.

Most of the people engage the services of their relations and friends irrespective of intelligentia.

If these causes are removed and if a factory is started on proper lines I daresay that such an Industry would flourish well.

Before starting any such Industry one must be thoroughly well acquainted with its commercial and economical results, try to obtain fullest possible information regarding plant and machinery, buildings etc. and also keep adequate provisions for financing the

entire business, from obtaining the raw materials until finished product, to start selling organisation by modern method of advertising and keeping correct standard of quality without reducing the same to find out whether an Industry which they want to start can obtain success, and what the impediments, whether raw products can be obtained without difficulty, whether the factory is near the Railway Station, whether such articles can be sold locally or are required to be exported, whether they can get facilities from Railway Companies, Steamship Companies, whether the manager is able to organise the factory, labour problem must be carefully tackled, arrangements must be made so that the labourers must be comfortable, arrangements regarding training classes must be opened.

If all these things are taken into consideration in a new Industry we are sure to succeed. It is also necessary that those industries which are not successful may find out ways and means to improve their manufacturing standard, to consult the highest authorities and pay them for their services and to engage the right type of people irrespective of friendship or relationship, to reduce the huge remuneration or profit sharing arrangements which the managing agents must be taking and if these things are carefully carried out the definite arrangements regarding finance is made out such factories will be successful. All enterprising and influential people should not start any such factories unless and until they are able to make definite arrangements regarding finance and also sales organisation, mobilising capital together with skill, labour etc.

I therefore request all important people interested in Industrial lines to consider the above-mentioned points carefully before starting any such Industries and in case if they have already started they should arrange to make drastic changes in their present arrangements. The sentiments of Swadeshism may not continue to last for ever, but it is necessary that all articles should be produced on a proper standard and the prices must be competitive so that such concerns may continue to exist. All enterprising manufacturing concerns in India should make it a point to maintain the standard of their quality as good as imported stuff, take special care in packing, wrapping, bundling and also not to make exorbitant profits or to take undue advantage in rise of market but to carry on the steady progress and such concerns will obtain a great success and will continue to exist in spite of any foreign competition. We must not forget that we have got considerable advantage over foreign manufacturers regarding very cheap labour, heavy duty and most of the raw products can be obtained in India. There are also number of disadvantages, however, it ought to help us in establishing our Industries on a sound basis.



TRADE AND COMMERCE



The Programme of the World Economic Conference

THE Lausanne Conference did much to settle the problem of German Reparations which was one of the greatest handicaps to international economic recovery. Although Germany is still left with several special obligations, and, more particularly, is burdened with the necessity of depositing bonds for 3 milliards of Marks, these are only to be issued under certain conditions considered incapable of fulfilment in the near future. Germany's annuities, which were to be paid for many years have been cancelled, which has done much to facilitate the exchange of goods between individual nations. It remains a task for future historians to pass a measured judgment on those forces mainly responsible for this important triumph of international economic prudence, as well as on those opposed to the attainment of the end in view. Although, as was inevitable from an economic point of view, this result was mainly due to material considerations, namely the conviction that the restoration of the individual economic system is closely connected with the prosperity of other countries and peoples, and the recognition that Germany's Reparation payments were one of the most formidable obstacles to a solution of the crisis, the work accomplished at Lausanne must be described as the triumph of a far-sighted economic and political statesmanship. Thus it is obvious that the members of this Conference did not wish to content themselves with having removed one, although the most important, hindrance to the attainment of international prosperity, but looked beyond to a further ideal, namely to secure a remedy for those other economic and financial questions which have either produced the crisis under which the world is groaning, or threaten to prolong it. The Conference accordingly resolved to summon

a Conference to deal with currency and economic questions

at a convenient date. It was also decided to entrust the preliminary investigations of these complicated questions to a committee of authoritative experts (not merely Government representatives) to be appointed by the Government involved. This preparatory committee has already met twice, and the results of the deliberations have been embodied in the form of "an agenda for the World Economic Conference". The Conference is to be held in London under the presidency of the English Prime Minister, although people were to be

found who preferred Washington as the venue on the plea that the key to the settlement of the causes of this crisis was to be found in the United States. The exact date of this Conference has not been definitely settled; all that is known is that it will not be convened until the agenda has been submitted to the members three months in advance. In all probability it will be mid or late summer before the delegates finally meet. Sceptics assert on the other hand that the Conference will not be held this year, and that a postponement *sine die* is far from being improbable. The Conference is to be composed of representatives of the participating Governments, and it will be the duty of such Governments to close their deliberations not only with recommendations but with binding agreements. That the labours of such an assembly cannot be easy is obvious when it is remembered that 67 Governments will be represented at these negotiations.

The actual agenda for the general programme before the Conference is as follows: (a) financial questions and (b) economic problems, subdivided into currency and credit policy, exchange difficulties, prices, circulation of capital, improvement of the conditions of production and the exchange of goods with special application to customs' policy, import and export prohibitions and curtailments, quotas, and other commercial handicaps and agreements between producers. Such points as these obviously involve a multitude of problems, for which no solution could be discovered in plenary Conference. It may, therefore, be stated without any uncertainty that the World Economic Conference will appoint several Committees and Sub-committees whose discussions will lead the members into

the lowest depths and the most abstract heights of national and international currency and commercial policies, and afford matter for discussion enough and to spare for many, many days and weeks. The possibility of obtaining positive results from the arduous labours of this Conference depends in the last resort on whether the special national interests of the Governments concerned can be subordinated to the greater ends in view, which must be described as the reasonable postulate for an international exchange of goods for the final purpose of securing the completest satisfaction of the needs of the great majority. In calling

to mind the World Economic Conferences previously held in Genoa and Geneva, it is difficult to avoid the apprehension that certain countries or groups of nations may designate as decisive for general prosperity what in reality does little else but promote selfish interests.

At the present time, what attracts attention more than most of the items in the agenda, is just this antagonism of interests immediately observable as soon as the first of the preparatory meetings had been called. Taking the situation all round, there is not the slightest shadow of doubt as to what must be done to create those conditions for which the Governments and the economists all over the world are striving. Although Humanity was never in a state of absolute contentment, the world would only be too glad when the hopeless confusion of the currencies and the exchange of goods as experienced just now, could in general give way to that state of affairs prevailing before the war.

Collapsing currencies, falling prices and restrictions of international trade are, according to the findings of the preparatory committee for this World Economic Conference, characteristic of the present situation and impart a tragic prominence to those difficulties caused by debts with which most countries are striving to cope. According to the experts, the fact that the stock market has exhibited a certain stability just lately proves that the possessors of capital believe in the possibility of a new economic improvement as soon as order is restored in the systems of money and credit, and confidence returns. The present situation is nothing less than a latent economic war, with the logical result that the protection of national interests by means of import prohibitions, quotations, control of exchange etc. has been emphasized at the expense of co-operation in international commerce, in the systems of credit and currencies and the movements of capital. The Conference is confronted with a task of unusual difficulty because the problem of political debts must certainly be settled before anything can be done to mitigate the pressure of the currency and economic questions, while, however, the programme of the Conference expresses no opinion as to the competency of that body to deal with the question of political debts. America demands, with a justice that cannot be gainsaid, that her debtor, that is to say Europe, should first submit proposals or offers for a settlement. As long as these political debts threaten the stability of finances, the economic situation and the currency, the experts are of the opinion that there is no possibility of an economic and financial restoration, and on this very account it is uncertain whether the Conference will be able to commence its labours in the near future. Before it meets, preliminary negotiations are essential to prepare the ground for mutual concessions.

These

preliminary negotiations

will have to be conducted first of all with reference to currency and credit in order to create anew a secure

international basis for currency, capable of acceptance by every country that has renounced the gold standard. They must also be extended to include the international wholesale prices, the raising of which is most desirable, and lastly the manipulation of devisen, where the repeal of the ordinances must be dependent on the adoption of the strictest budget and economic policies by the various Governments. Finally, the Governments must make every effort to come to a general agreement for the purpose of reducing the severity of the trade handicaps with all possible speed even if gradually, with their total elimination as the ideal. At the same time, all exaggerated customs' tariffs must be cancelled, a duty which is particularly urgent for the leading creditor countries.

Each of these very definite points of the programme bristles with difficulties, because the demands made in the majority of the countries, and not least those of the great creditors, are almost impossible to reconcile with the prosecution of their national and currency policies. The postulate of a gold currency free from all trammels appears to be incapable of fulfilment, after the English Premier, who is to preside over the Conference, and the organized British Industries have declared that there can be no question of England's return to the gold standard. What the experts describe as essential for the restoration of the gold currency imposes the greatest demands on the Governments and the leading banks of issue, and it must also be borne in mind that prudent economic considerations can only too easily be nullified by more powerful and higher political influences. If the countries still enjoying the benefits of a free gold currency, with gold reserves in abundance, can be persuaded to introduce low rates of interest and to allow a free outlet for their gold, it is still doubtful to a certain extent if the decisive factors can be made amenable to such wishes, because in this event they must be deprived of a considerable proportion of their power in the world. It is remarkable that the Conference considers it worth while to emphasize that the central banks of issue must be entirely independent of all political influence. It is a well-known fact that in Germany, for example, there are not a few who are all in favour of a change in the present situation, while in France the influence of the Government on the central bank is notorious. One of the most important parts of the explanation of the proposed agenda for the Conference is

the reduction of the rates of cover

which, as Germany learned more particularly in 1931, can be made necessary by the rapid recall of short-time investments. It is accordingly being described as highly desirable that the usual minimum legal cover in gold or exchanges be drastically reduced from 40 or 33 per cent. Further, it is recommended that those banks which obtain foreign devisen in the minimum legal amount as cover, should deposit their credit balance in the Bank for International Settlements instead of maintaining them in short-time foreign credits. The

expedient of withdrawing all notes for small nominal amounts and replacing them by a coinage, of which Germany has obviously made full use, is also brought to the notice of other Governments too, in order to economize in gold. The use of silver for currency purposes is rejected in a comparatively summary manner. The idea of reintroducing bimetalism as a basis for currency is also described as unfeasible. The proposal that the banks of issue should be allowed to accumulate large quantities of silver in their reserves is rejected on the plea that the price of silver is not firm, while it could also be adopted by other central banks to meet their balances in international transactions. The price of silver could only be effectively bolstered by employing this metal for coins to be struck in still larger quantities. The possibility of employing silver for industrial purposes to a greater extent must also be thoroughly investigated. To this must be added the fact that a general raising of the prices of goods would also contribute to an improvement in the price of silver, which is much to be desired for the purchasing power of countries like China with a silver currency.

In proceeding to the question of the prices of goods

the experts have recognised in a manner for which all should be grateful that the actual value of the burden of debts has been seriously increased by the fall in the prices of articles. It is now common knowledge that Germany's creditors have required time enough to recognise this truth, so far as her obligations according to the Young Plan are concerned. The comments made in connection with that part of the agenda dealing with measures for restoring the balance between receipts and overhead costs are not exactly convincing. It is stated with every show of justice that a reduction of the costs of production is encountering an ever-increasing resistance through the lowering of the nominal wages. The elimination of the disparity between receipts and overhead costs could also be effected by curtailing production. A liberal credit policy is also recommended, and attention is drawn to the ostensible success of the American Open Market policy in connection with the Reconstruction Finance Corporation which served to counteract the curtailing of credits and the hoarding of money. A liberal credit policy, however, must be justified by a larger demand for such facilities, i. e. by the development or renewal of industrial plants which had been delayed, and must be undertaken without further ado, in which connection it is anticipated that much will be done to satisfy a demand which has been accumulating. If the movement of capital is to be encouraged, all control of the disposal of exchanges must cease. For all that, nothing is said as to who should give the lead in this direction. Attention is further drawn to the necessity of "standstill" agreements and it is once more emphasized that the debtor countries must be allowed

to discharge their obligations in the form of goods and services.

The "standstill" agreements and the transfer moratoriums are still no more than an intermediate solution which must pave the way to a final settlement, in which, as laid down with all reserve, special treatment must be meted out to special cases. It is also essential that genuine commercial bill credits (blank credits) be liberated from all compulsory regulations without delay. Another interesting proposal is that a list be drawn up of people of recognised standing and ability, whose services should be requested in all arrangements for a composition between creditors and debtors. The proposal for the creation of an International Credit Institute in conjunction with the Bank for International Payments is treated with a certain amount of scepticism. The method of drawing up a programme of international activity is regarded as impracticable for the present at any rate.

After the settlement of the customs question, the most urgent problem for the abolition of the handicaps to international trade is

the repeal of import restrictions of whatever kind. The reasons for the introduction of such restrictions are once more summarized and arranged in order. First of all, many countries have adopted them with regard to their financial situation and their currency. The ordinances regulating the disposal of devises, more especially, as was again explained with all desirable clarity, which were passed on account of the currency and for financial-political reasons, have proved in practice to be some of the most formidable barriers to international commerce. The repeal of that well-known indirect protection in the form of a compulsory marking of goods, introduced on the plea of veterinary considerations etc., is also stated to be necessary. The possibilities of exception provided for in the agreement of November 8th 1929 dealing with the repeal of import restrictions, and especially the catastrophe clauses, must be defined with the greatest precision, and remain reserved for strictly limited occasions. The report admits that the process of reducing customs barriers can only be carried out very gradually in some countries and that

the repeal of custom's tariffs must be effected by stages. On the other hand, such a reduction of tariffs should, as much as possible, be carried out in all countries simultaneously. It is once more proposed that a halt be called in the policy of raising these customs' tariffs. An international Customs' Peace, as proposed by the Economic Committee of the League of Nations in 1929, still awaits general subscription, as is known. The Ouchy Agreement, however, in which Belgium, Luxembourg, and Holland have solemnly undertaken to introduce no new protective duties nor to raise those in existence, is more important. Attention is also drawn to the Commercial Agreement of Geneva concluded on March 24th 1930, and the Oslo Agreement made between Belgium, Holland, and the Scandinavian countries. Now a Customs Peace which perpetuates the tariffs already existing

would do nothing else but consolidate a state of affairs that is absolutely unsound. The Report also touches on a few special customs' problems. The statement concerning the exaggerated agrarian protectionism in certain important consuming countries is notable. It is maintained that this policy has helped to depress the world prices of the most important agricultural products, so that the purchasing power of the producing countries both in Europe and Overseas has been seriously undermined. It is most important that the specific customs duties be brought into line with the fallen prices of goods. So far as the fiscal duties are concerned, certain exceptions must be provided for in the general reduction of tariffs.

The Report then proceeds to maintain that under normal conditions

an unconditional and unrestricted most favoured nation clause

must undoubtedly be retained as the basis of commercial relations between nations. In addition to the well-known regular exceptions to this clause (small frontier trade, customs unions etc.), the matter of collective agreements must be thoroughly investigated, and more particularly the question whether the advantages resulting from such understandings should benefit no more than the contracting parties, or whether it may be left open to any third State that may be interested to become a partner in such a collective agreement.

The organization of the interchange of goods, meaning more especially the international cartels, could under certain circumstances be highly beneficial. They might form, as it were

"an island of security in trade"

while on the other hand they could nullify the sound reciprocal effects of competition. The World Economic Conference will not be able to avoid investigating such questions as these, and will be compelled to devote special attention to the possibility of agreements between Governments with reference to the production and export of wheat, which could be extended to include timber and coal. Transport could also be made the subject of similar understandings, which would certainly produce an appreciable reduction of freights whether on sea, land, or in river traffic. State subsidies for transport, and more particularly in shipping, are energetically rejected. In many countries, a merchant marine is no more than a burden for the budget instead of securing profits for the credit side of the balance sheet.

The first condition for the success of the World Economic Conference

is the previous solution of the problem of international indebtedness, which, however, so far as political debts are concerned, is of comparatively minor importance for Germany. With reference to the non-political debts, the statement of the experts that the "standstill" agreement in force up to now is no more than a temporary expedient that must give way to a permanent settlement is of the greatest interest to us. It has already been hinted in well-informed quarters that the demand for a more rapid repayment of these credits would involve a flooding of the international markets with German goods. This would do little else but foster the competition of the manufacturers belonging to the debtor countries at the expense of the producers in the creditor countries and ruin their banking business. In order that the service and amortization of the long-time debts may be carried through, it is necessary that adequate markets be provided for German goods throughout the world, and that the commercial and customs policies of the debtor countries be directed to this end.

The points raised in the currency programme of the experts fall into line on the whole with German interests. Germany must certainly strain every nerve towards obtaining a stabilization of the vacillating currencies and the restoration of the gold standard in every country. That the above alleviations, and more especially the reduction of the rate of the cover for currencies are ideals to be striven for, are points inextricably bound up with a financial policy desirable from the German point of view.

With reference to the commercial customs policy, the latest events in Germany such as the notice of the termination of the customs agreements in the Franco-German commercial treaty and the announcement of increased duties on wood are hardly to be regarded as a propitious preparation for the World Economic Conference. Further, it is by no means so clear that England and the United States would be willing to reduce their customs tariffs in the more or less near future. The countries which have experienced the sorrows of deflation by precipitate withdrawals of gold and are compelled to face the dread possibilities of a new inflation will hardly be enthusiastic about relaxing their devisa ordinances.

In spite of all, however, the World Economic Conference must, undoubtedly, be accounted as something all to the good for the economic political future. A pregnant idea has always proved the germ of all progress in the history of the world.

PRIZE FOR THE BEST SUGGESTION FOR IMPROVING THE MAGAZINE

has been won by Jagjivandas Nandlal, Esq., Bombay

Economic Depression in Travancore

II. Foreign Trade. By R. Kaimal, M. A., LL. B.

THE Dewan, Mr. Austin, assumed charge of the administration on 19-2-32/7-7-'07, a very auspicious time of the Malabar Era, because of the happy astrological prime of the Reign and Regime centred in the virgin resources of the Ruler and the State. We are in order to show the search light for the time being into the Report on the Bugbear passing current as Economic Depression. We are not without fears, nevertheless, that such limbs of the Administration, styled, in the abstract, the Insolence of Office, see things best on the Surface, least resisting the inner Strata and conveniently pass over those under, as not furnishing data to fill the Official Statistical Volume. 'He that hath ears to hear, let him hear!' is the Injunction of the Lord; and, we proceed. The officially prepared address of the Dewan is the food for our reflection. It says: "Travancore has not escaped the effects of the world-wide economic depression; and with the degree of economic interdependence of countries now attained, isolation is impossible and as a result, foreign trade has been adversely affected. The finances of Governments and of individuals have been equally disturbed with the prolonged existence of abnormal and unprecedented conditions. Every department of Governmental activity has been visited by the ill effects of the present situation and you will find evidence throughout the *Administration Report*. The arrears under Land Revenue has increased; the number and value of documents registered have both gone down; foreign trade has decreased; the receipts from Forest and Sale of Government lands have declined; the growth in the number of school-going children has suffered a set-back; and arrears have accumulated in Co-operative Societies. The (Economic Depression Enquiry) Committee has submitted its report together with separate dissenting minutes by the non-official members. The Committee has traversed a wide field and has made definite recommendations on a variety of subjects, such as concessions to be granted in regard to land tax, loans and other facilities for cultivation, reduction of tariff values for assessment to export duty, freight concessions, Suspension of *Chitties*, arrangement for the collection of reliable statistics, and retrenchment. Some of the recommendations of the Committee have already been acted upon. No time will be lost in considering the others and in giving effect to those that will be found acceptable."

Firstly, examine how foreign trade has been adversely affected. International relations developed through extensive commerce. The old idea of bartering in limited circles expanded itself to exchange, as civilisation progressed, latitudinally and longitudinally over the globe of nearly 52 millions of square miles in area of *terra firma*. Bartering meant exchange of goods for goods in all conceivable permutations and

combinations. Exchange, the trading term, confines itself to Gold, Silver, Copper, Nickel, in the descending order. 'Silver and Gold have I none; but, what I have, I give unto thee!' may be good religion to keep the nations as an integral whole, but, bad business among the many units of the world of commerce. 'Give unto Caesar the thing that are Caesar's', is the first axiom of all trade relations from Pole to Pole in all the Degrees of Latitude. Not one, to keep one's face up, may think of any unexplored or unexploited latitude. Those who have sufficient backing of metallic coinage have enough liberty to issue any other form of credit, say paper, in exchange for every other wealth. Trash thought, word, and deed, all is treasure for such favourites of creation. God, never mind, extols them as Mammon with exclusive privileges, far beyond the jurisdiction of Heaven until Doomsday. The negative Mammon in Religion is the positive figure of Power in the world of Finance. Financier is his hallowed appellation as the trading term. The farthing of the financier, or, to use layman's language, the Comptroller of Trade, fetches tons of goods, raw and manufactured. Producers and Consumers of the necessities of life are left to the tender mercies of the Money Changer, the apt word by God.

To fight against Mammon, to combat the deepening, gaping, Gulf of Depression down to his Empire of Hell, God has sent us the good *Manna* to gather in time and store it; and, He prepared ourselves to meet any rainy day. We have only to take pretty good care that our good moneys, *Sankhu-Chakkram* do not go out of our State, more than what is absolutely necessary to keep our interdependent Foreign Trade intact. It is time to scrutinize the figures under this Head for the last economically depressing financial year.

Produce of the Coconut, Arecanut and Palmyra trees, Coconut, Laurel and Lemon Grass oils, Hides, Green and dry ginger, other articles such as Prawns and other varieties of fish, Pepper, Fuel, Charcoal, Rice including rice—all to the total value of Rs. 9,65,15,615, were exported. All these exports are dutiable, save Coir, Coir mats, Coir matting, Coir fibre, Coir rugs, Coir druggets of the Coconut tree, and Palmyra fibres and rafters. Exports, duty free, are grains and oil seeds, Leather goods in Hides and Skins, and miscellaneous and unclassified goods such as Aloe yarn, Arrowroot, Bamboos, Bamboo mats, Books, Bricks, Copper and bell metal, cashewnuts, cardamoms, coffee, timber, wearing apparel etc. Imports are to the value of Rs. 7,65,58,897. Drink and Tobacco such as spirit preparations, wines, Beef and iron wine; Food, such as confectionary, Dates, Coffee seeds, Tea; Articles wholly or mainly manufactured, chemicals, Drugs and Medicines; Furniture and Cabinet ware; Earthenware and Porcelain; Glass and glass-

ware; Cutlery and hardware; Iron and steel, and other metals; Instruments, apparatus, appliances and parts thereof; stationery, and paper; yarn and textile fabrics; Miscellaneous such as Cycles, Beltings etc.—these are dutiable. Imports, duty free, are Fish, Fruits and Vegetables, Grains, Pulses, and Flour, Oilman-stores, Spices, Sugar, Petrol, Foreign liquors, Gums, Resin and Lac. The total volume of trade to the extent of Rs. 17,30,74,512 is directed to and fro British India by land 31.57 p. c.; by back water 39.70 p. c.; by sea 17.24 p. c.; sea borne to and fro Foreign Countries, being Pondicherry and Marseilles, 0.15 p. c.; Ceylon, 0.94 p. c.; The United Kingdom, 5.37 p. c.; America, 2.70 p. c.; other Countries, 2.33 p. c. From the stand-point of the Customs Revenue, affectations from Economic Depression without, are negligible. The Interportal Trade Convention of 1865 A. D. entered into with the British Government guaranteed Rs. 53,218 income to the State, the deficit, if any, being made up by the India Government to the extent of Rs. 40,000 a year. All imported goods, which are produced in Cochin or British India or which paid

duty there, are not subject to any further levy here. Tobacco, Salt, Opium, and Spirits are without the Convention. Direct importation from abroad is also saved. Nevertheless, much water has flown under the bridge from 1865 A. D. to 1932 A. D. It is time to revise the Convention, perhaps already on the anvil of the Constitutional Adviser. From the stand-point of the commercial section of the population, there is nothing depressing at all. There is Rs. 1,99,56,718 of liquid cash to carry on prosperous trade with. Exports Tariff is revised from Rs. 20 to Rs. 16 per cwt. on copra; Rs. 60 to Rs. 48 per 1,000 on cocoanuts; Rs. 15 to Rs. 12 per cwt. on Coir; Rs. 8 to Rs. 4 per cwt. on Coconut husk (green and soaked); Rs. 15 to Rs. 12 per cwt. on Coconut oil; Rs. 5 to Rs. 1½ per pound on Lemon grass oil. Ginger (green and dry), Prawns, Turmeric (finger) stand reduced from Rs. 25, 37½, 37½, 15 to Rs. 16, 25, 25, 10 per cwt. respectively. Inference is clear. Trade has not suffered. We would only suggest that exported rice or paddy should carry heavy tariff.

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Chicago's Attempt to Rise above Depression

A BEAM of light, which left the great star Arcturus, which is 40 light years distant from the earth, during Chicago's first World Fair in 1893, was focussed on photo-electric cells, amplified and converted into energy sufficient to turn on all the illuminations at the opening night of the Chicago World Fair, "A Century of Progress," (writes R. J. Cruikshank, the New York Correspondent of the News-Chronicle).

Arcturus was unable to plead bad weather as an excuse for not keeping the appointment. The canny organisers had arranged that the ray was to be caught by photo-electric cells in widely distant parts of the United States, at the observatories of Yerkes (Wisconsin), Harvard (Massachusetts), Illinois University (Urbana, Illinois) and Pittsburgh (Pennsylvania).

The World Fair represents an heroic attempt by Chicago to rise superior to the depression.

During the three worst years in the city's history, sufficient money has been raised to build this gigantic exhibition which spreads itself over 424 acres along the lake-front.

With characteristic civic pride Chicago has refused to ask for a Government subsidy for the Fair. Over twelve million dollars has been guaranteed by leading citizens, and the public has subscribed about a million dollars in membership fees.

Chicago has come to regard the Fair as a symbol of its own faith in itself. The great theme of "A Century of Progress" is typical of the youngest-hearted and most virile of American cities.

It is the advance made by mankind during the past hundred years, the mechanical progress achieved, the

wealth of scientific discovery and improvements of living conditions. By celebrating the triumphs of a century, Chicago hopes to find inspiration for the future.

The greatest thrill of the Fair is the Sky Ride. Two steel towers, each 600 feet high, and therefore taller than any Chicago sky-scraper, have been erected at a distance of 2,000 feet from one another. Between these towers are slung the steel cables on which the rocket cars whirl 5,000 passengers an hour. Each of these cars possess a cometary tail of coloured steam.

A century's progress in science and the arts, in agriculture, in government, in industry, in transportation, are among the subjects illustrated in the exhibition buildings. The growth of Chicago itself is one of the most interesting revelations of the Fair. It is just a hundred years since it received a charter of incorporation as a town, and in that century it has grown from a group of cabins clustered around a tiny log fort to a city of 3,500,000.

Among the high-lights of the Fair are the following:

The "Royal Scot" express train, the pride of the L. M. S., and the first complete British train to visit the United States.

A reproduction of the world a million years ago, containing life-size models of dinosaurs and other prehistoric monsters, which move and emit cries.

The performances of ten thousand musicians.

Fields of rainbow-coloured corn, produced by 20 years of cross-pollination.

The dedication of an entire wing of the Hall of Science to contract bridge.

An exhibition of Old Masters.

Madras Mail.



AGRICULTURE



Chancellor Hitler's Steps against the Economic Crisis

THE German Government holds that a permanent improvement of the economic position at home can only be effected by making agriculture once more remunerative and thus increasing the purchasing power of the home market. Hence, the measures directed against the crisis mainly aim at the improvement of agricultural conditions. An extremely comprehensive and most interesting attempt to bring about increased sales of certain important farm products of home origin is now being made; and the fact that not much is known about it outside Germany is probably due to the technical character of the details of the plan. The idea is to reduce the consumption of margarine and to enhance that of German-made butter. The margarine factories are only allowed to produce 60 per cent. of their output last year. Moreover, since May 1st a duty of 25 pfennigs is levied on every pound of margarine, so that the price payable for the better qualities approximates that of butter. A large number of persons (unemployed and others) are entitled to purchase two pounds of fat every month at a reduced price. Some 25 million people benefit from this provision. The rest of the population has to pay the increased price for margarine; and it is hoped that this will induce them to change over from margarine to butter. Butter prices have already gone up, so that it seems that one of the farmers chief demands is near realisation. Imports of certain fats are subjected to a monopoly in order to prevent the home market from being flooded with them. Foreign bacon has to pay a high import duty, which naturally tends to restrict imports. As these measures have only been in force for a short time so far, it is too early to form an opinion about the success of the scheme; but there can be no doubt about its inherent soundness. It is supplemented by certain other measures expected to bring about a reduction of foreign agricultural products. A far-reaching plan for easing the financial position of farmers will soon be announced. No previous government has ever introduced any measures intended to save agriculture that may be said to be equally thorough-going.

The Government has also taken—or is about to take—action fundamentally affecting the retail trade. Retailers had for a long time past demanded that the

system of "free gifts" should be curtailed; and this demand has now been complied with. No new shops may be opened between now and a date fixed by the Government. Steps will also be taken to diminish the excessive hold of departmental stores, etc., on the public.

On January 1st, 1934, the new compulsory labour scheme will become general; and it is believed that, by providing hundreds of thousands of unemployed youths with useful work in the country, the labour situation will be greatly relieved, whilst the political atmosphere will also become calmer. The simplification—and thereby the cheapening—of the social insurance service is under contemplation. When this plan is in operation, the federal States and the municipalities will find it much easier to balance their budgets. Business is now exempt from interference on political grounds which means that a powerful factor likely to upset all calculations has been eliminated for good.

It would lead too far to enumerate in detail the additional provisions contemplated by the Government; and it must suffice to refer to Chancellor Hitler's speech of May 1st. They relate to road-building, repair work, etc.; and it will take years to carry them out, thus giving employment to large numbers of persons now workless.

It goes without saying that the pace at which it will be possible to overcome the economic depression cannot be as rapid as that at which the political victory of the national revolution was accomplished. The Government has therefore announced that its economic programme will probably require four years for its carrying-out, which proves that it has had the courage to warn the nation against indulgence in an unwarranted optimism. The foregoing account, at any rate, shows that positive and practical action in the economic sphere was vigorously started as soon as the new regime was installed. Finally, it is of importance to note that Chancellor Hitler emphatically stated Germany's desire to bring about the success of the World Economic Conference, thus showing that he is willing to co-operate with all nations for the purpose of putting a stop to the most devastating of economic crises known to history.

Slow Fertilisers

Cashewnut farming. By T. K. Venugopal, B. A.

MUCH has been said and done; much remains to be seen. Ours is a land of farmers whose ambitions never stray "from the sequestered vale of life". Except for the small patches of what has been left out as "barren tracts", forest lands and those plots made barren due to exhaustive cultivation by our ancestors—except for these, India is covered with fields and gardens. It has been found that our ryots are generally poor or immersed in debts; and the system of cultivation generally followed is one of diminishing returns. The result is after a time the land refuses to yield anything. Such tracts, already given up as useless and nowadays used for public traffic, are not few. Scientific fertilisers are too costly and our farmers cannot go in for them. Instead, slow fertilisers have been instituted—cashewnut farming, tapioca, Teak plantations etc. are some of them. The easiest, demanding minimum labour and answering our purposes as well, in my opinion, is cashewnut farming.

To get cashewnut seeds require no trouble and little money. Neither oxen nor ploughs are needed but only a little scraping of the soil preferably in the rainy season, and then the seeds may be sown. The distance between two plants, to be observed, ranges from five to ten yards i. e. 500 seeds may be sown in one acre of land. The distance may be varied according to the fertility of the soil. A few days' rain and sun—and the tender shoots appear. The plant tries to raise its head.

For the first three years the farmer must be a little careful. The tract should be fenced round lest some stray cattle destroy the growing plant—especially because at this juncture the tender leaves taste sweet. At this stage of the plant's life stray hungry goats and cows come there

"As doth the raven over the infected house."

Only for three years does the infant plant need any nursing, and then it attains full manhood. Its leaves become rough and sour. And there need be no fear of marauders. The cashewnut tree begins to flower and fruit.

December to January is the flowering season in these parts, and it extends to the end of June. The cashewnut consists of a rather conical-shaped fruit—a stem at the apex and a nut-like seed at the base. Cocoon-like, the sweet kernel of the cashewnut is enveloped in a thick covering from which, when pressed, emanates a sort of acid liquid. Like dilute H_2SO_4 it chars or burns, when brought into contact with human skin. This "cashewnut oil", gathered by a process of direct heating or burning, is used for curing cattle of their hoof-diseases. The sweet kernel of the nut is utilised for production of sweets. The nut itself is shipped from these parts, and one Thulam of cashewnuts is said to be valued at Re. 1 to 1/8. The profits thus obtained

range from 8 as. to Rs. 6 per tree per year depending on the quality of the tree and that of the soil.

Tender cashewnut fruits are green in colour. As it ripens, it receives a red, yellow or brown tinge. When the sun shines after the storm-cloud, these cashew fruits gleam like pearls and rubies set on a green shield. When fully ripe, the fruits fall to the ground by themselves. Squirrels and bats eat these fruits leaving the nuts to drop to the earth. The value is for this nut and very seldom for the fruit. Cashew fruits can be eaten as we eat sugarcane. When pressed it gives forth a kind of juice that is sweet to the taste. This juice has certain medicinal qualities. The poor ignorant villagers use it as a tonic for dysentery and other such bowel disorders. Through distillation, an intoxicating liquor, even more powerful than whisky or gin, is made out of the cashew fruits.

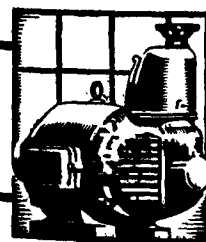
To collect these nuts at least one woman is needed for an acre of land. Sometimes in return for the troubles taken in collecting nuts, these labourers are paid with the ripe fruits, which they take to the local market and earn a pittance of a few annas. In some places there are factories where women and children are employed in taking the kernel out of the shell. In these parts I have not seen any machinery used for this purpose. And the industry as it is found here, should be discouraged—nay, even prevented. For, the people who work at it, as in the factories before the factory laws in England, become deformed and ugly. The method of severing the kernel from the shell is direct, and as the labourers are too poor to go in for hand-gloves, their arms and face become easily sprinkled with the cashewnut oil, which leaves small dark patches all over the arms and face. To this may be added insanitation.

Cashewnut farming needs little or no trouble. The farmer need not bother himself about manure. The roots of the cashewnut plant go deep down into the ground until they reach the necessary food-materials. The manure thus obtained is deposited on the surface soil as the leaves fall off and rot. Thus after ten years the plot is said to become 'ripe' and it may be used for cultivation of rice or for gardening. After this period of ten years, the trees may be cut down and sold as fuel. Under normal conditions the trees fetch at the rate of Re. 1 per head. Thus 500 trees mean Rs. 500 which amount may be used for making the plot arable.

To conclude, cashewnut farming is preferable in so far as it not only acts as a slow fertiliser, but also pays during the period of fertilising. It needs no capital and little labour but only a little patience—and lo! the barren plot is made fertile! Above all, for a family living near a cashewnut plantation, the fuel problem is easily solved.



MOTOR AND ENGINEERING



The Machining of Automobile Cylinders

The accuracy of the cylinders as regards the parallelism of their walls and the roundness as well as the finish of their working surfaces exercises a great influence upon the efficiency of the motor. Owing to the sliding of the pistons in the cylinders, the cylinder bores are subjected to a certain wear and tear which—far from being uniform—is greater in the direction opposite to the movement of the crankshaft, so that the bore becomes oval, more especially in the top part of the cylinder. Even in a car kept in good condition, this wear and tear is so considerable that the cylinders have to be reconditioned and the pistons to be replaced after a run of 40,000 or 50,000 kilometres; and when the construction is not very robust, this must be done after 20,000 kilometres or even sooner.

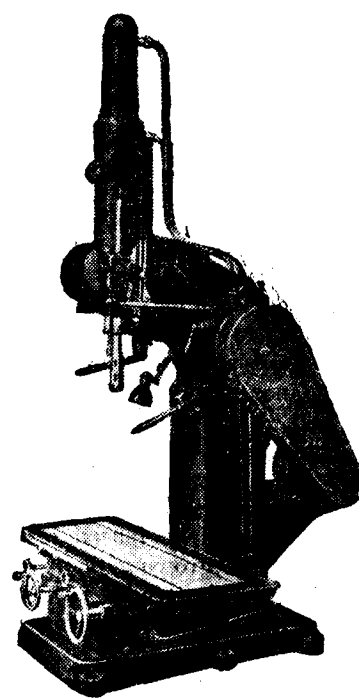
The accuracy of the bores—present-day practice demands tolerances of 0.005 mm.—and a smooth working surface with the smallest possible co-efficient of friction can only be obtained by grinding. For many years the internal grinding machine with horizontal spindle was exclusively used for the internal grinding of new as well as worn-out cylinders; but a few years ago the new American method of grinding was introduced into Germany, with the result that it is now almost universally used in that country by the motor-building and cylinder-grinding works.

As any motorist knows, it was not advisable to subject a new motor or a motor whose cylinders had just been reconditioned to a greater speed than 30 or 50 km. per hour (when using the top gear) during the first two or three thousand kilometres, in order to avoid the seizure of the pistons. In spite of the grinding, the cylinder faces were relatively rough, so that high piston speeds would have resulted in too much heat and in the seizure of the pistons.

With a view to reducing this tedious run-in time of the motor a polishing tool (see Fig. 1) has been designed, which can be made to rotate and to reciprocate in the bore. The speeds of this tool are considerably lower than those of an internal grinding spindle. They correspond to a cutting speed of 40 or 50 metres a minute, compared with speeds from 650 to 2000 metres a minute for internal grinding. These peripheral speeds are so low that neither the tool nor the bore will become hot, more particularly so because the tool runs in petroleum for purposes of lubrication and cooling. The tool referred to is called a honing head. It is fitted with a fine adjustment of the honing stones

and its design has been perfected so much that it has a tolerance within 0.0015 mm. The run-in time of honed cylinders can now be reduced by one-third or more.

Originally honing was merely intended to be a polishing process; but later on attempts were made to



Honing Head (Fig. 1)

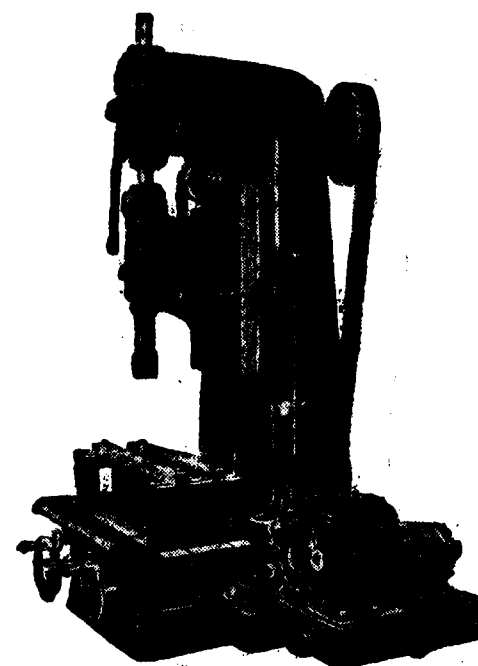
use it as a general substitute for internal grinding. It was seen, however, that the honing tool could only remove about 0.1 mm. of material, which—of course—is not sufficient to make a worn-out bore completely circular again.

The horizontal setting and exact centring of motor blocks is always a troublesome proceeding and the internal grinding requires a lot of time. Attempts were therefore made to obtain such a degree of accuracy—by boring and reaming—in connection with vertical cylinder-boring machines that the honing head could be used without the previous grinding of the hones. This attempt, however, only just proved successful when applied to new cylinders; but failed entirely where worn-out cylinders were concerned, the tool simply following the oval bore. It appears that, owing to the sliding of the piston in the bore, the working

surface undergoes a certain tightening and hardening, with the result that the resistance which the tool meets is greater and less regular than is the case in the homogeneous material of new cylinder blocks.

About three years since some manufacturers of boring machines brought out new and special types of these, which can be used to bore and ream oval cylinders to an accuracy of 0.01 mm. This is sufficient to allow direct honing without previous grinding.

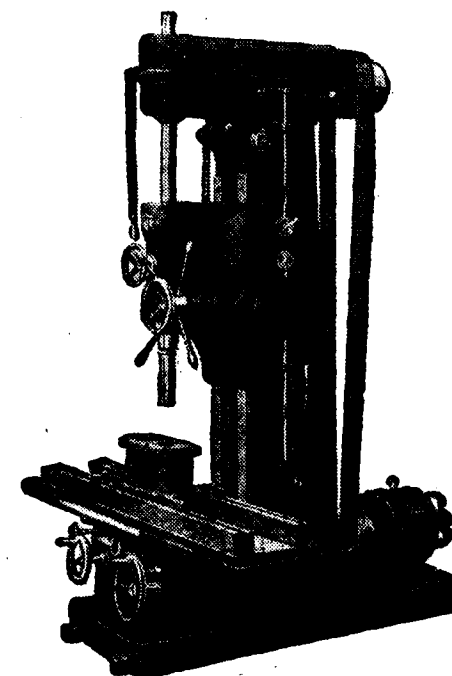
Fig. 2 shows such a machine—turned out by Messrs. Hille-Werke Aktiengesellschaft, of Dresden-A 36, Germany—with hydraulic spindle feed. In order to obtain the desired accuracy, the diameter of the spindle has been increased and the spindle has been rigidly set in the well-dimensioned sliding head. The latter is rigidly connected with the piston rod of the hydraulic cylinder and balanced by a counterweight, and controls the feed. The hydraulic gear works in the usual way. The adjustable cams on the lateral stop bar work over a gearing to a valve of the oil pump with variable volume. Hence, the feed can be automatically adjusted as follows: Quick advance—working feed—quick return whilst the rotation of the spindle is stopped.



Boring Machine (Type BA 1) (Fig. 2)

Fig. 3 shows a similar machine with mechanical feed. Both machines are arranged for working with single-point tool or with cutter head. As the single-point tool is Widia tipped, some high speed rates are provided; and the motion is transferred to the spindle by belting, so as to prevent chatter marks on the cylinder surface. For cutter-head and reaming work a change-speed gear has been installed which reduces the speeds as may be required. The advantage possessed by these machines as compared with internal grinding machines of horizontal type is that the

cylinder block can be vertically set and that the machining time is greatly reduced. The cross slide tables are fitted with rapid and fine adjustment scale and vernier and can be clamped in any desired position.



Boring Machine (Type GBV) (Fig. 3)

For honing purposes it is not necessary to centre the cylinder block exactly, as the honing head is freely suspended from the spindle and guides itself in the bore. The specific characteristics of the hydraulic feed system, such as speedy and shockproof reversing, and the uniformity of the piston speed which can be adjusted without stages, are very valuable in connection with honing; because the more regular the feed, the more exact and uniform is the polishing effect.

Seeing that very little time—only from 45 seconds to 2 minutes in the case of the machines described above—is necessary for honing, the new method of machining is a great improvement upon the former one of internal grinding, which often required several hours per block and did not result in such well finished surfaces as are obtained by honing.

Protection Through Invisible Rays

A number of devices have been introduced to protect valuable objects, such as safes with immensely strong armoured doors, ingeniously designed electric plants, watchdogs, guards, etc. Their number has now been increased by a novel mechanism which might easily be mistaken for a toy, but which affords excellent protection, because it operates on the principle of invisible rays.

It is a well-known fact that ordinary light contains—in addition to the rays of the spectral colours

which are visible in the rainbow or through a glass prism—certain others which are referred to as ultrared and ultraviolet rays. Although they are invisible to the human eye, their existence can nevertheless be proved, because they affect photo-electric cells (or photo cells) in exactly the same manner as visible rays.

This property of invisible rays has now been utilised for practical purposes, and Messrs. Siemens & Halske manufacture installations for the protection of rooms on that principle. Whenever a ray of light impinges upon a photocell situated in a circuit, the resistance is altered; and this also causes a change in the current, which can be used to actuate certain relays. These, in their turn, can open or close another circuit. The new device consists of a source of light of which the visible rays are kept back by a filter, whilst one of the invisible ones is made to impinge upon a photocell. If this ray is interrupted by the intervention of some person or some object, the photocell is no longer excited, so that the relay commence to operate and to switch on an alarm.

Photocells have already been employed for some time back in factories for counting small articles on conveyor belts, but in this case a visible ray of light is used. Where rooms have to be protected, the only rays—of course—that can be utilised are invisible ones. The usefulness of the new device is supplemented by various additions to it. Thus, for instance, if some one were to try to make a substitute ray emitted by another source of light impinge upon the photocell, the alarm would still work, because the Siemens protective device is arranged in such a manner that a diaphragm which cuts up the ray circulates around the source of light in a definite rhythm. The photocell only fails to operate the alarm when it is permanently illuminated by that fraction of the ray to which it has been adjusted. Hence, the device is independent of the lighting arrangements for the room and is equally in action by day and night. It can be easily fitted to shops, storerooms, museums, strongrooms, etc. Ultrared rays can be deviated—just like visible ones—from their normal course by mirrors, so that they can also be made to follow a zigzag direction.

The use of photocells is not confined to protective devices, but can also be extended to other switching operations. They can be made to open restaurant doors when people approach them and thus interrupt their passage; they can switch on the light, and they can perform numerous other tasks.

A New Water Tap

In the design and construction of water taps little in the matter of innovation or improvement has been

heard in recent years. Of late, however, things appear to have been set moving again, as evidenced i. e. by a new model just marketed by a German firm.

With this new water tap the packing can be renewed at any time without the need of running down to the cellar to shut off the main valve. A matter of equal importance is, that the tap has no stuffing box and can hence not commence leaking. Nor can the tap start dripping. The tap can be repaired by unscrewing the star cap with which the tap is equipped in place of the old type cap and taking out the top part, the water being shut off by the ball valve underneath. The latter securely closes the outlet opening of the water pipe, as it has the full pressure of the main against it. To open the tap and obtain water the star cap is turned down whereby the spindle is pressed down on the ball valve and the latter opened.

The exterior of the tap shows no edges or corners, has a pleasant form and is suggestive of solid construction and workmanship.

A Fountain Pen with Pencil Combined

A combination of a fountain pen and a pencil can only be considered a really practical instrument, if the pencil is as good as any first class pencil and the pen as good as any first class fountain pen. This means that the pen must have a large ink capacity and a practical and durable filling system. The pencil must be well made and be provided with a chamber for spare leads.

We have lately seen a number of combinations which indeed consist of a short pencil and a short pen, both screwed together. The result is a small, useless ink container, a short and weak filling mechanism and a total length that would not go into any ordinary pocket.

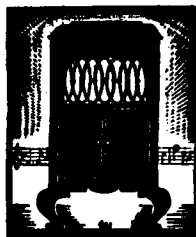
The problem of combining pen and pencil without abandoning the necessary requirements for each part has been ideally solved by the "Orthos". Every available space has been thoroughly exploited. The combination is a press filler, a lead chamber is taking the place of the usual filling button and offers sufficient space for the spare leads. The mechanism of the pencil does not require any additional space, but goes into the lead chamber. As the lead chamber is not much longer than an ordinary filling button, the ink container remains about as long as that of an ordinary pen.

We have no doubt, that this really practical instrument will be fully appreciated by the public.

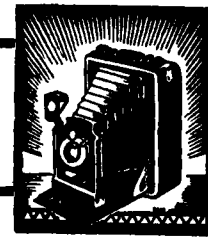
In addition to this pen-pencil the Orthos Füllhalterfabrik offers a very rich line of single pens and pencils, which all may be considered of the very best quality.

He that would govern others first should be the master of himself.

Massinger.



RADIO



Radio Basic and Active Principles

By Dr. Ernest J. Stevens, A. M., D. Sc., Ph. D., M. D., N. D., D. D., M. Sc., etc.

As to various industrial, educational, musical, religious and other departments of radio and, outside of just touching now and then, on the activities of this special vibration, the author will not take time to consider them. These angles to the great perspective of radio activity are considered by other specializing authorities in books and magazines, but, we have been unable to find any work treating or giving lessons on the foundation work of this important knowledge, the fundamental thoughts, the basic principles, or even the elements of the realm of radio.

We should comprehend, or at least learn, something about the ether, or that which we call ether, which like an invisible ocean, with its different currents and waves, should be studied, if radio-activities are to be understood and if the electronic basis of all matter is the material and agent of radio-energy. We should understand something of vibrations, their principles, and about light and sounds and colors and music, together with the speed of these rays representing energy as it passes through space, after which a study of the control, activities, uses and benefits of the active principles of radio may be more easily understood and enjoyed. Study about electron magnetons, and atoms and molecular organs and general functions of organization of the visible materials called matter, and the invisible thing we have termed ether; then reason out in which way the physically visible rays of our physical eyes are related to the invisible waves.

It is important to learn of light and its sub-divisions, the colors, the sounds, the actinic rays, the electric, the magnetic and thermic or heat rays; each and all having their respective rays and rates of vibrations.

Study the progressive scale as found in the pages of this magazine and secure from library or from a bookstore a copy of "Vibrations; their Principles, Lights and Colors; their Uses", where you will collect data on ratings of the different realms of vibrations, giving particular attention to the color or chromatic tables. Both light waves and radio waves are constant and travel through open space at the same rate of speed, which is 300,000 metres per second. You must realize that there are divisions of the light-octave, such as blue to violet, that speed faster than do the slower-rating, less powerful colors, such as red to yellow;

also bear in mind, that there are long and short wavelengths to reckon with, the shorter the waves, the greater the rate of vibratory frequency; otherwise, your light sub-divisions would slow down and relax to green, orange, yellow or red or below. The same law applies to sounds and the other rays and forces of Nature with their electrons, magnetons and atomic creations, be they the smallest insects or plant or man or planets and other planes of spheres and hemi-spheres with their respective auras, odics and radios. Do not our brains and nerve thinking cells inform or suggest to us, that we are all little human worlds with diverse, yet friendly nationalities, when each organ is unselfishly functioning?

Sound, is like light, a product of our dear little parent, the electro-magneton, and, in its undivided and uninterrupted state, travels through the ether, the same as the radio, at the rate of 186,000 miles a second. The word interrupted is used cautiously for interrupting in the ether, by reflection or otherwise, cause the short waves, which are used for short service and special work in experimenting; but, for long distance, the passage through space must be unobstructed, or only where slight obstacles can be overcome.

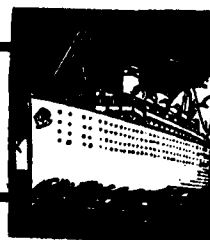
Giant Reflectors to be invented.

At no distant date, there will be invented and manufactured, in different countries, gigantic reflectors as light and color and sound projectors. These ray carriers, will not only penetrate a clear atmosphere but will pass through clouds and fogs and a smoke-laden atmosphere. Why not? If we can use small reflectors in a small way, we can expand our vision by following out our inventive-thoughts to produce the extension of light and sound reflectors, which reminds us of certain present day efforts being made to project light across the mighty deep by Guglielmo Marconi and his associates, developing an idea to send a beam of light across the ocean, using electro-magnetic waves, in conjunction with reflector idea. So it will not take a great stretch of the image-producers and moded-inventors' imagination to produce a light, color and sound reflector, located on a sky-scraper or mountain or even a kite-like appliance up in the air, as well as

Continued on page 303



ROAD AND RAIL



The Future Policy of India's Railways

Meeting growing Bus Competition

The need for Indian railways to take speedy action to meet the keen competition of bus traffic is stressed by Major-General Sir Henry Freeland, in an article in Modern Transport on "The Transport Problem in India."

Sir Henry, who is a Director of the B. B. and C. I. Railway, the M. and S. M. Railway and the Barsi Light Railway, says that he has come to the conclusion that Indian railway principles of working their passenger traffic no longer meet the needs of the modern traveller over short distances and that the railways must act now even to the extent of "taking a gamble."

INDIA is faced with the necessity of taking some action to save her railways, in which the State has an enormous stake. A great agricultural country, she needs a means of communication, such as can only be provided economically and efficiently by rail.

While the railways had matters all their own way in carrying the passenger traffic of the country, they could afford to keep the freight rates for agricultural produce down to a low figure. Now a powerful attack on this passenger traffic has been made by the road motor companies, and they have already succeeded in inflicting severe losses on the railways. If this is allowed to continue, India will experience the same difficulty we have in England, where the road has not only captured a great deal of the passenger traffic but also a high proportion of the better-paying goods traffic.

Happily, we may say that the problem is not to be allowed to slide, for the Government of India have not only caused an investigation to be made into and received a report on the whole subject, but have convened a series of conferences with a view to a proper co-ordination of the transport services of the whole country. The object of this article is to discuss the question from the point of view of the user.

How it Came About

Indubitably, the roads came first. In a country of great distances movement was slow and laborious till the steam locomotive and the iron road revolutionised the life of the people and solved many of the problems of government. Thirty years ago the Indian peasant was content to arrive with his family and impedimenta

at a railway station and await with patience the arrival of a train to carry him to his destination. The trains might be few and far between and the speed comparatively slow, but they were infinitely preferable to the alternative means of transport available, the bullock cart or the pony ekka.

Then came the modern internal combustion engine, and the world took to road motoring, India included. In spite of the indifferent surface of many of the highways, the road bus has gradually established itself in direct competition with railways, so that from 1925-26 onwards there has been an increasing falling off in railway coaching earnings till the present time, when it is estimated that the losses sustained are in the neighbourhood of 200 lakhs of rupees per annum.

An examination of the subject has established the fact that nearly 50 per cent. of the railway mileage of the whole country has a metalled road within ten miles and parallel to it. Considering, therefore, that road transport is cheaper and more expeditious for short distances and much more flexible than railways, it is not surprising that the people of India are becoming more and more addicted to the road habit.

That this habit will become too strong to eradicate is a certainty; it will grow eventually, all the more rapidly because the road motor companies will encourage it, and because Provincial Governments will be pressed to provide more and more money for road construction, betterment and maintenance. Roads are still being constructed all over the country parallel to the railways and close to them, and the road users are by no means content with the amount expended in road construction. So, in spite of the fact that railways are still necessary for long-distance passengers and for all goods traffic, the return on the capital sunk in them is steadily diminishing. It is not even certain that a good proportion of the higher paying goods traffic will not take the road as trade revives and metalled roads are improved to a standard essential for the motor lorry.

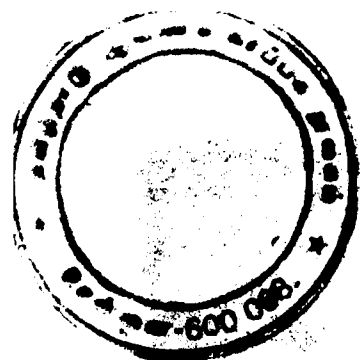
Cost of Operation

Before considering what the railways are doing in the matter of resisting the road competition it may be interesting to set out some of the results of the investigation referred to in regard to the existing taxa-



A THIRTY TIGER

F. H. RAULEDER



tion and cost of operating buses on the roads. In the first place, the general trade depression has caused the removal of many commercial vehicles from the roads; there has been less revenue coming in from taxes, and less money for Provincial Governments to expend on road construction and maintenance. Some of these losses of revenue were undoubtedly, due to high taxation. The investigating officers found that for a large fleet of buses, with considerable expenditure in management and supervision and relatively low provincial and local taxation, the ratio of tax to total running costs is about 16 per cent., or 13 pies per mile when the total costs are 6 annas 10 pies (82 pies) per mile. In some provinces this ratio is as high as 27 per cent. (40 per cent. in Madras), and these figures may be used when estimating the amount subscribed by the road motor industry towards road upkeep.

When comparing this with the cost of maintaining the permanent way of a railway, it is found that the latter amounts to 33 per cent. of the total working expenses, and this is attributable to track maintenance only. In addition, railways have to spend money on telegraph, telephone, signalling, and on the staff to work them, and they are subject to many expenses on account of inspection, "hours of work", rules, law and police, and special provisions for pay, provident fund and bonus, sick leave, etc. The conclusion is that, although the road companies complain bitterly of the burden of taxation towards the up-keep of the roads on which they operate, they are, in effect, no worse off than the railways, which spend even larger sums on the maintenance of their track and signalling.

In the second place, the information collected by the investigating officers goes to show that one of the reasons why there are so many failures among the road bus proprietors is that they frequently endeavour to capture traffic by the quotation of a fare which is too low. It is estimated that, taking into consideration all the costs of operation, the economic fare should be about 5 pies per passenger mile, at which figure the competition between rail and road would be purely in the matter of convenience. It may be that, for the time being, the user is profiting by the uneconomic fares charged by the buses in their efforts to attract traffic, but in the end the result must be indifferent service rendered and increasing unreliability.

Indian railways have not been blind to the effect on their earnings of this attack by the roads, and have, from time to time, adopted the obvious counter-measures to retain their passenger traffic. Fares have been reduced and cheap return tickets issued; trains have been speeded up and additional trains run; single steam coach units have been used with varying success. In some cases benefit has accrued in the matter of increased earnings, but there is obviously a limit to the provision of cheaper facilities when the cost exceeds the income, and, on the whole, it cannot be said that there has been any marked success in retaining or regaining the traffic.

One of the principal difficulties which confront the railway administrations is not generally understood. It might be thought that it is for the long-distance passengers that it pays the railway best to cater, whereas an examination of the question clearly indicates that over 80 per cent. of the intermediate and third class passengers travel within a range of 5 miles, and three-quarters of this number within a range of 20 miles. When it is realised that something in the neighbourhood of half the total gross earnings of Indian railways is derived from coaching traffic, towards which the third and intermediate class earnings contribute close upon 95 per cent., and when 35 to 40 per cent. of these third class passengers travel over a range of 50 miles and less, the extreme importance to railways of retaining their short-distance traffic is obvious. And yet it is precisely within this range of 50 miles that the fiercest competition with the parallel roads is taking place.

Branch Lines

Moreover, there are numerous short branch railway lines all over the country where the provision of additional facilities in competition with the roads is even more economically impossible than on the main lines. Most of the branches are built on a comparatively low standard, involving low speeds for steam trains; the traffic being small, only a few trains can be justified on the existing principles of operation. Again, these short branches are constructed on the narrow gauge of 2 ft. 6 in., on which speed and capacity are limited.

Thus it would appear to be necessary to alter the principles of working in some manner which, while retaining the ability to move goods traffic in quantity, will ensure that the earnings from passenger traffic will contribute sufficiently to the total earnings to enable the railways to keep the goods rates at a low figure. How this is to be done is not yet agreed; all that can be stated without fear of contradiction is that railways must run faster trains at short intervals, and that these trains will best serve the needs of the traveller if they are of small individual capacity and can be started and stopped at points along the route, precisely as a road bus does when plying on the highway.

"Go on the Roads"

The investigating officers have given it as their considered opinion that the time has come for railways to "go on the roads" and operate their own fleet of buses within the railway zone on roads paralleling the rail. Legislation to this end is shortly to be introduced and there is every reason to hope that it will go through. When giving this opinion the investigators had, it is believed, especially in mind the movement of traffic on light railways and branches, and they very rightly insist that, if goods traffic only were to be carried on these lines, there would be a considerable reduction in cost of maintenance and operation (for example, signalling, staff, track standards, etc.), and the savings could be utilised for the operation of passenger traffic on the road.

Generally speaking, the railway administrations are opposed to railways operating on the roads on the grounds that it would involve outlay in shops and garages, that a new department would have to be organised, that there would be difficulties in controlling the expenditure on consumable stores, and that there would be considerable leakage in the "takings." The investigating officers answer these objections by pointing out that there is now a lot of expenditure in counter-measures, in the reduction of fares, additional train services, improved signalling and higher standards of track, and that very little success has resulted; they believe that this expenditure will increase in the future, and they urge that this money had better be devoted to operating on the roads. The long and short of it is that, in other countries, road buses operated by the railway companies have proved to be the only adequate solution, and India would be wise to follow suit, especially where branch lines are concerned.

There are, however, the main lines to be considered, and the problem is not the same. Here the track and signalling, the staff and equipment, must, in any case, be kept up to a high standard for fast mail and express trains and for heavy goods traffic. When "going on the roads" parallel to these main lines, railways can obtain no savings from the necessary upkeep of the railway to set off against the additional equipment required for road operation. The track is there, fully signalled and highly maintained for fast speed. Why not use it? The question is—how?

Unfortunately, the railways are in no position to experiment with various alternatives over a period of years till they find some economical self-propelled small unit on the basis of the desired requirement of more trains, smaller and faster units, run more frequently over short 20-to 50-mile distances, at times suitable to public needs. It looks as if much of the steam passenger locomotive equipment of Indian railways must, in due course, and before the end of its life, be replaced by an entirely different type. Some advocate the provision of light tank engines, to which one or two coaches—a hundred to two hundred passengers—could be attached, according to the need of the moment. The objections to this idea are several, but the chief are that it takes as long to "light up" a tank engine

as it does any other type of steam locomotive, and there must be a fireman as well as a driver in the cab. This system might suit railways on the East of India, where coal is cheap, but elsewhere the coal bill is greatly increased by the long freight haul from the collieries, and a system of other than steam power might appeal forcibly to railways in the north, west and south.

Some, therefore, are in favour of adopting a self-propelled unit using either a heavy oil-engine or one operated by petrol or paraffin. In the case of the heavy-oil engine, an electric system of transmission and drive seems to offer the greatest advantage, but the performance of such machines under Indian climatic conditions is still an unknown factor. The Baroda State Railways, 2 ft. 6 in. gauge, have put into operation during the last few months a few Diesel-electric units, and the results of their operation will be watched with interest. Whether it is eventually decided to adopt a system of light tank engines with coaches attached, or that of a self-propelled unit (with a trailer), there is no reason why passengers should not be picked up and dropped at convenient points between existing stations, a short low-level platform being provided or not, as circumstances demand.

Must Act Now

The conclusion the writer has arrived at during a recent tour of the country may briefly be summarised as follows: Indian railway principles of working their passenger traffic no longer meet the needs of the modern traveller over short distances; the road habit has taken firm hold of the popular mind, and there are strong influences at work to encourage this habit; railways cannot afford to waste any time in experimenting with various schemes to improve their competitive position—they must act now, even to the extent of "taking a gamble"; the Government of India has good reason for giving every help it can, but in the end the popular demand will carry the day, and no legislation can stand up against it for long.

India, like every country in the world, must have speedy, cheap and efficient communications as the fundamental essential to all success in industry and commerce, and it is for those who are responsible to provide the means.

Madras Mail.

DESIRE

In first great morning of the Universe

The crouching Phantoms dimly moved about

Lo, questioning their sloth that a sad rout

Seemed inevitable, to peace averse:

The teasing silence of the silver stars,

The brooding quietude of Great Afar

Sudden conceived the Babe that hissed to mar

Elysian joys and crooned the tunes of wars.

From that evil hour of swift Retreat,

Humanity, entangled in the Ring

Of irretrievable Desire's fabric,

Doth pine everlastingly and ever beat

The obscure marshy tracks of deep ailing

To horrid glee of desire's wild frolic.

K. Srinivasan, B. A.

Spas and Watering Places of Germany

By K. P. Padmanabhan Tampi

GERMANY, the land of varied attractions, has been, from centuries past, renowned for its lovely and health-restoring spas and watering places. Germany is especially rich in its forests, lakes and parks. The peaks of some of the mountains rise to a height of over four thousand feet above sea level. A great diversity of climatic conditions prevails in Germany. It can boast of two exceptionally favourable and pleasant coasts which attract countless groups of people during the sweet summer season when the fields abound in sun-lit daisies and the crystalline

streams and lakes appear in all their glory and grandeur. Summer in Germany is hugely appreciated, and every year during the season there is a continual rush of visitors pouring in from all parts of the world. Mark Twain has said that summer in Germany is "the perfection of the beautiful."

With its gentle surf, absence of tides and soothing climate, the Baltic Sea exerts very great restoring and refreshing influence on the bathers, upon whom the waters mildly and delightfully rush. The North Sea is more invigorating as it is richer in salt and having powerful surf and strong tides. Sea bathing coupled with summer sunshine forms the most rejuvenating tonic for all kinds of weakness.

Professor Weissbein of Berlin has remarked that Germany "is the classic land of spas and health resorts." To all those who are on the look-out for a new lease of health, strength and vigour, Germany offers a rich multitude of refreshing health resorts and water spas possessed of marvellous healing powers. Among the healing springs of the world, the place of honour surely and decidedly goes to the German spas. They are the best on the earth. Adequate treatment is always available under the careful control

and guidance of learned and experienced doctors, in one or other of the spas for every kind of ailment. The spas of Wiesbaden, Aix-la-Chapelle, Wildbad, Homburg, Elster, Elms, Kissingen, Nanheim, Pyrmont, Reichenhall, Tölz, and Wildungen—to mention but a few of the most famous are widely reputed and have cured millions and millions of ailing humanity. It is said that the ancient Romans had known of these wonderful spas and used their waters with astounding success. Some of these are warm thermal springs which are noted for their radio-active properties.

Others abound in brine or carbonic acid, in alkali or sulphur, iron, arsenic, chloride of calcium, sulphate of magnesia, sulphate of soda and iodine. The effects of mud, peat, and fango baths deserve special mention.

There are more than two hundred spas and watering

places scattered all over Germany. All these have their own characteristic individuality. Their great healing effects are, to a large measure, due to the variety in their composition. When treatment by other methods have been found to be ineffective or not suitable, cure in spas is recommended. Eminent doctors are of opinion that in preventing illness, thermal waters are of very great use and effect. To recuperate strength, spas are supremely efficacious. So, it is that these life-giving, life-restoring, life-preserving springs are extolled for ages past by people of all lands. Almost all the spas—popular, effective and important spas—are fully equipped with the latest appliances for hydropathy, electropathy, orthopaedic gymnastics and the like, besides spacious sporting grounds (golf links, tennis courts, swimming baths) and comfortable hotels and guest houses which ensure the greatest possible care on the diet of the visitors and their comforts.



WIESBADEN—WATERING HOUSE

Spas have been carefully classified in relation to the diseases treated and the methods adopted for the same. German scientists, as the result of their experimental and clinical research and practical experience of many years, have accomplished the difficult task of classifying the spas for relieving the distress of suffering humanity. To such savants, the world owes a deep debt of eternal gratitude. Every spa has its own doctors, who are all specialists in their sphere. So, it is that the best possible medical advice could be had from the right men, in these right places, where-from health would be restored in full. The rich and the poor alike make use of the spas. Visitors with limited means are also decently catered for. Necessary attention is paid to their tastes and needs. In some of the watering places, there are special homes and sanatoria designed for the poor. Perfect equality reigns supreme in all the spas. From the Emperor to the poorest citizen, all must, without rank or wealth, take his turn, whether for consultation with the doctor or for any other thing at the spas. All are bound to obey the rules. Discipline is strict at the health-restoring centres.

The majority of the spas are open from April to October. This is the season when there is a rush of visitors. The best seasons are spring and summer, when the results are very favourable. Those who visit the spas during the less-frequented months, derive greater attention because of the decrease in the strength and quantity of the rush during the summer and spring months. Some of the spas remain open year in and year out. In the majority of spas a "Kurtax" is levied, which amount varies according to the importance of the resort, i. e., from ten to forty marks for each visitor a season. The tax is to be paid within three days of arrival. Qualified medical practitioners, and their families are always exempted from payment of any tax at the watering places. When members of the same family visit a spa, all in company, there is a reduction in the taxes. Payment of the tax

generally entails free admission to all concerts, dances and festivals and free use of public libraries. German spas afford all sorts and forms of enjoyment—suitable recreation in the shape of concerts, excursions, sports and pastimes; ample, absolute and quiet rest; wholesome and health-restoring food. The recreation of the head, heart and physique are always most carefully and scientifically attended to by qualified medical men. Visitors readily meet with a very warm welcome. Germans proudly and rightly boast that their health resorts afford all conveniences to the visitors, who find in them nothing wanting or displeasing even to the slightest degree. Indeed the Germans are very particular in satisfying their visitors. The doctors, attendants, and all people connected with the spas are ever sincere and enthusiastic with the one and only aim of attending to the needs of those who resort to the spas for hope, health and cheer. Germany eminently deserves the whole-hearted praise and adoration of the world at large for the great interest and care she takes in the welfare of suffering mankind. People who cannot visit the spas, can enjoy the benefit to be derived from them, by taking in their waters. Water filled in bottles is available for sale everywhere. Other products of the springs of the watering places are prepared by expert hands and sent out for sale. Thus, people who can go to the spas and those who are unable to do so, are both cared for.

So much regarding German spas and watering places in general. To give the reader a more accurate and complete account of the health resorts, I shall now deal with a few of the most representative spas in fuller detail. By calling attention to some outstanding establishments, the reader will be in a position to form a good idea of the watering places of Germany whose mission is good, great and noble.

Wiesbaden spa is the best and finest of all watering places in the world. This first-rate spa is situated in a beautiful sheltered valley, surrounded by the forest-clad Taunus Hills and watered by the lovely Rhine.



WIESBADEN—Kochbrunnen

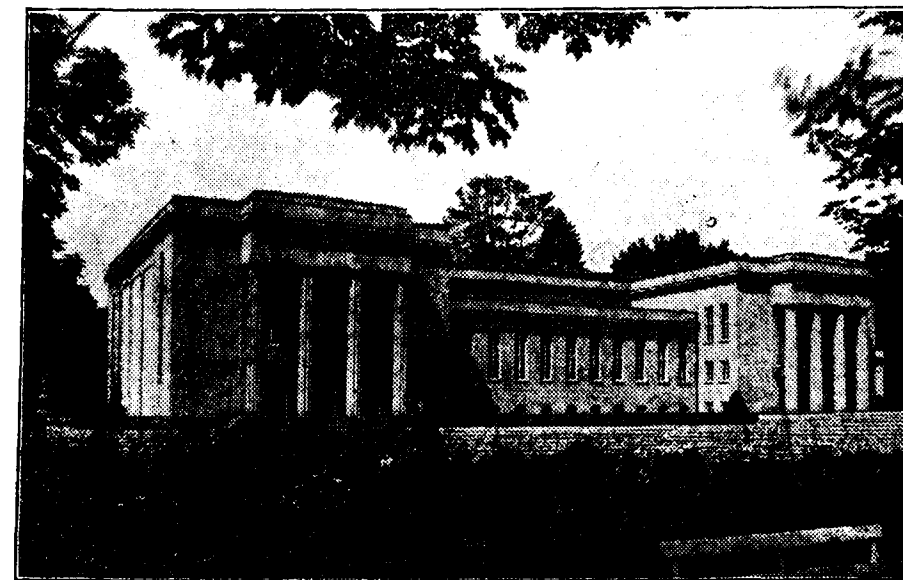
This spa rises three hundred and eighty-three feet above sea level and is known as the "queen of all watering places." Its marvellous healing springs, lovely gardens, happy villas, imposing edifices, endless variety of social and artistic life, bracing climate and natural beauties—all these have made it most famous. There are swift-moving trains from all important cities and ports in Europe to Wiesbaden. There is an aerodrome here. The spa is open all through the year. Gout, rheumatism, nervous complaints, disorders of metabolism, and troubles of the respiratory and digestive organs form the outstanding diseases that are treated successfully in Wiesbaden spa. There are over twenty-seven thermal, hot-healing springs. Some of them gush up from a depth of over six thousand feet below the earth. Ever since the days of the Romans, the springs of Wiesbaden have been renowned. This great spa enjoys an international reputation hitherto unrivalled.

There is a model bathing establishment with inhalatorium, known as Municipal Kaiser Friedrich Bad. At this spa, thermal, carbonic acid, oxygen, mud, fresh water, sand, electric light, hot air and Turkish baths are given. Fungo treatment, hydropathy inhalations and pneumatic treatment also are provided. There are eight sanatoria, thirteen medical institutions, and two hundred and thirty doctors, besides eighty-five hotels and eighty boarding houses. The superb edifice of Kurhaus, situated in the charming park of Kurpark and costing over two lakhs and fifty thousand pounds, has a big concert hall most luxuriously furnished and decorated in gold. There are two State theatres in addition to municipal orchestra, symphony concerts and chamber music. The spa band has an established fame and consists of sixty-two great musicians, who afford a never-ceasing round of entertainments. Golf, tennis, hockey, angling and swimming are the popular pastimes. In the Taunus Hills winter sports are held. The great spring and autumn festival weeks, the May festival week in the State theatre, the international tennis and dancing tournaments, the Wiesbaden auto-

mobile competition, the fire-works and illuminations in the Kurhaus gardens, from May to September, the trips on the romantic Rhine, the steamer balls and the vintage festivities are the chief items of interest which gather together a great part of the population of Germany and streams of visitors from distant lands to the lovely Wiesbaden spa.

By systematic exploitation of the curative properties in accordance with the modern requirements of balneological technique and hygiene, Wiesbaden, Germany's greatest watering place, has grown to be an international health resort. The greatest German Medical Conference is held here every spring. This important occasion gives thousands of medical men the opportunity of studying the curative virtues of Wiesbaden on the spot. The climate, the surroundings, the geo-

graphical advantages and the general healthy conditions of this spa enable it to keep up its activities in full swing all through the year. The extensive parks and public gardens, the refreshing lakes and fine streets with rich avenues of shady trees, the many inspiring monuments and



BAD NAUHEIM—KERCKHOFF BUILDING

imposing edifices, the picturesque, wooded mountains, and charming valleys, and the golden Rhine with vine-yards and ruins of castles on the mountain tops, are the pride and glory of the Wiesbaden territory. Nature has lavished all her art in the surroundings of this great spa which has a population of nearly twenty thousand. Wiesbaden is filled throughout the year with real international life, and peaceful comfort is wedded to happy environment.

Baden-Baden, in the uniquely beautiful Black Forest, is an ideal health resort. It has been called "the Eden of Central Europe." In its natural beauty, artistic and cultural background, it is no doubt one of the outstanding spas, second only to Wiesbaden. Baden-Baden is one of the spas known from very early times. History records that Hadrian, the Roman Emperor, built a bath-house some two thousand years ago. This charming resort lies in the valley of the swift-running river the Oos. The climate is exceedingly mild. The curative effect of the springs bears a remarkable record

of over two thousand years. The big Friederich's Spring, with a temperature of one hundred and fifty-four degrees Fahrenheit, rises from a depth of six thousand feet. It yields one million quarts of water rich in lithium and arsenic, every twenty-four hours. The outstanding aspect of this spring is that it provides a unique bath known as the "Wildbad," which is taken in a shallow marble basin over a bed of sand. This bath is mostly used in the treatment of gout and rheumatism. This spa is famous for its "Zander Treatment", a system of exercises, inaugurated by Dr. Zander of Sweden. One hundred and fifty apparatuses are employed in the treatment of various muscles. Baden-Baden affords innumerable attractions. In this spa, there are more than seventy-five doctors, fifty hotels, and thirty-three boarding houses. It has a population of twenty-five thousand and the number of visitors per year is never less than one hundred thousand. The most famous bath-houses are the Friederich's Bad (for men) and the Kaiserin's Augusta Bad (for women).

In a lovely woodland valley enclosed by the Ardennes and the Eifel Hill, lies Aix-la-Chapelle, the universally renowned spa. Aix-la-Chapelle is one of the earliest centres of civilisation in Germany. Its full historical importance was attained during the glorious days of Charlemagne, the mighty ruler of the Franks, who had his famous imperial castle built in Aix-la-Chapelle. In his castle is manifested the great ruler's indomitable will to power and the genius of his architects. The great emperor lies buried there. During the next seven hundred years, not less than thirty-two German Emperors were crowned there. Aix-la-Chapelle is noted for its hot sulphur springs. There are no fewer than thirty-eight springs. The hottest of them is the "Kaiserquelle," which has a temperature of fifty-five degrees Centigrade. No other spring has so much curative powers as far as rheumatism is concerned. The hot springs in the far-flung and densely wooded valley were known to the Celts and the Romans. A good deal of diverse entertainments is

provided for the visitors. The symphony concerts of the municipal orchestra are celebrated all through the music-loving world. The International Riding and Driving Tournament, which has acquired a pan-European reputation, is held every year in Aix-la-Chapelle. It is one of the most conveniently situated centres, and the manifold beauties of its own surroundings never fail to appeal to all lovers of nature.

The Wildbad spa, buried in the profoundest depths of the Black Forest, has been famed far and wide, for the past six hundred years, and brings to its springs over twenty-five thousand visitors every year. It lies at an elevation of nearly two thousand feet above sea level and is surrounded by hills clad with magnificent pine trees. The longstanding reputation of Wildbad is principally based on its warm springs, the

healing waters of which are of uniform chemical composition. The waters of these springs flow from the granite rocks through about forty borings at a natural temperature of thirty-three to forty-one degrees Centigrade. The waters bring with them, from their subterranean source, all healing

properties, contained in the thermal water in the form of radium emanations, helium and argon. The climate is pleasantly temperate. The fine and extensive spa grounds are watered by a sparkling stream abounding in trout. This enchanting retreat preserves its rustic peacefulness to the glory and delight of Germany and to the joy and benefit of her visitors.

Bad Homburg, which is situated near the Taunus Mountains, was the favourite health resort of King Edward VII. It is said that the waters of this spa were known to the world, even before the coming of the Romans to Germany. The soldiers of Cæsar, encamped in Germany, enjoyed the waters of Bad Homburg, famous for its mineral wealth. This spa is noted for treatment of the diseases of the digestive organs, of the heart and the muscular system. The annual tennis tournament held here is an international affair and Bad

Continued on page 303



HOMBURG CASTLE



The Highland Chieftain of Hogenakkal

By T. B. Krishnaswami, M. A., B. L.

HILL tribes are hard to subdue; when subdued, the conquest is hard to maintain; and in the improbable if not impossible event of such a maintenance, the game is not worth the candle.

In the listless days of old, when every petty chieftain weary of *ennui*, said "Let us go forth and conquer a kingdom", even as one might say "Let us go forth and have some fun", there was in the hills bordering on the Cauveri at Hogenakkal, a highland chieftain known for his beauty and prowess, the gift and the glory of a long line of ancestors, famed for their might and majesty. The lofty-forehead was the insignia and sign-manual of nature's nobility. The shapely Roman nose was the embodiment of power and authority and unquestioned command. The broad shoulders and the stately figure were the sign and symbol of strength and splendour of manhood.

He wore his hair long and the long locks as they lay upon his back when he dried them at a roaring wood fire after a refreshing bath at the water-fall made the heart of many a maiden sink in envy of his beauty. Like other mountaineers, stiff of neck and knee, he never bent even before the elements but walked straight in, to his depth in the water and came out.

His chief ambition was to rule undisputed over the hills and the regions at the foot, far as the eye could see from the summit. One of his ancestors so took a survey of the realms round about and spoke some wild words disrespectful of the deity who in His wrath fixed him fast in stone, in that colossal and gummata-like figure you see at the summit of the southern range. He is Perumthalai Peruvazuthi.

His son Irumporai when young was sought to be destroyed by his enemies. Two of his father's trusted lieutenants carried him one night to be taken across the Cauveri to a place of safety. The late rains had heightened the water and made the current violent. No one could make himself heard because of the noise and roaring of the water.

The bark of the *Marutha tree* so abundant all along the banks was peeled and on a piece of it was written a message and wrapped round a bit of stone it was flung over and the men on the other side reading it came to the rescue and saved the child. It grew under

the fostering care of Cheraman Thagadur Erinthaperun-cheral-Irumporai and it was from this foster father that young Peruvazuthi came to be called Irumporai.

Cheraman had treated him as his own son and trained him in all the arts of war and peace and before being sent across again to his own domains, young Irumporai was taken to an ancient temple in the heart of the forests, stately and vast and towering with a hundred columns, there in an awe-inspiring grove still redolent of the sanctity of ancient days—*horrendum silvis, et religione pætelum*—he was solemnly sworn to stand by his foster-father in peace and war, to be faithful to him with the last drop of blood and the last gasp of his breath.

Thagadur which is Dharmapuri now, was then ruled by the famous Athigaman, brother of the poetess Auvvai. He was lord of the people called *Mazhava*. It has nothing to do with Marava. Legendary lore apart, he was so valorous that he fought against seven kings and won wide domains for himself. The Chera King, Cheraman was one of those who had lost a portion of his territories and vengeance was brooding in his mind. His son young Cheraman and his foster son, Irumporai had both been sworn in to recover the lost territories. It is at this juncture that our story begins.

It was a season of festivity such as we find described in Silapathigaram. Indra the God of the celestials was invoked and the whole city of Thagadur was *en fete* and though it was an annual event, men came flocking from far and near, as if each time was the one opportunity of their life!

The two young fellows, Irumporai and Young Cheraman, young and adventurous went forth disguised to participate in the festivities, albeit that their lives were at stake in the enemies' land. Indeed King Cheraman said he would have such festivities in his own land and begged the two fellows hard never to venture into the hands of the enemy. At the time of the festival he kept them constantly under his eye: but this provoked the youngsters to burst all restraint and rush into freedom, so that on the last day of the festival they were not to be found and Cheraman, the King, was disconsolate.

The young fellows dressed as country bumpkins wended their way through the many shops that exhibited many kinds of wares, a market being an essential accompaniment of every festival.

It was a full-moon night vying in brightness with the day and they walked amid the variously adorned stores, the tall-towering mansions, where the windows were as fawn's eyes, passed the fascinating quarters of foreigners mostly Greeks, the streets where scents and sandal-paste and flowers were sold; the mart where soft silk and thick wool were exposed for sale; also the dainty delicate shawl made of rats' hair. There were shells and corals and beads exposed to view as at the present time in the long corridors of Rameswaram temple. They passed the shops where salt and spices and drinks and dainties of the table were purchasable; where specimens of carpenters', brass smiths' and goldsmiths' works took the eye; watches which marked divisions of time each of twenty-four minutes' duration; clocks that struck the same *nalgai* periods, such as one finds left as a relic in the Sankara Nainar temple in the Tinnevely District; drums of all sizes and shapes; musical instruments, recorders and wind instruments of an infinite variety.

Men rode on horses and elephants and the bells hung from the neck or the sides of the animal gave warning to the pedestrians to keep out of harm's way. There were those who had lost the bells or forgot to fit them up. They were a nuisance with consequences painful all round. The poet Kapilar was so trodden on and he spoke or sang his curse on all who ride without bells on horses very like Horace cursing the man who planted the tree that nearly crushed him to death. Chariots rattled through the wide streets.

The very avenue trees were used as pillars and shops were marked off. The noise of buyers and sellers was incessant and excruciating to tender neeves.

There were devil dancers, such as still carry on in the West Coast, particularly in South Kanara. There were rope dancers and acrobats who trod under foot the straight bamboo, while the curved one stood higher than the crown of Kings being worked into the Royal palanquins. There were circus-men, mostly outlanders, supposed to be Afghans, who trained little children to be supple enough to be bent into a hoop and slim enough to pass through iron railings. This was a preparation to get the children into Hindu Temples to get through the iron doors and steal the costly temple jewels.

There were men who rode cock-horses and resembled at close view a sort of centaur half-horse, half-man; only in the Greek centaur the other half of each creature was absent. Here both the animals were in tact the man fitting a dummy horse to his waist by

passing himself through a vertical hole in the centre and keeping the horse's head in front of him and the tail behind him. Instead of the horse bearing him, he bore the horse at waist level and went through jaunty and jerky movements to keep up the versimilitude of riding.

Irumporai and young Cheraman walked about in disguise drinking in the delightful show, until at last they came to a place, where bullocks were tethered, hundreds of pairs, for sale. Such cattle marts you see to this day at Kalugumalai on the road to Etyapuram from Koilpatti. Bright white Oxen with glossy skin and heavy rolling dewlaps and sharp-pointed and polished horns of a chestnut hue and seeming solidity of tintured ivory were snorting and pawing the ground and the more vicious had copper or bronze rings in their nozzle. At sight of something, one of the bulls took fright, broke loose and went madly careering through the crowd, trampling on some, goring others to death and doing much damage. A number of people kept aiming missiles at the bull but only hit each other, while the bull itself went unscathed and scot-free. A fat man was thrown down and trampled on the stomach and on the eyes, a child was borne off in the veritable dilemma of the bull's two horns. It was then that Irumporai and young Cheraman rushed through the crowds, two shapely and stalwart figures of veritable goods and stayed the mad career of the bull and saved the child.

What was the reward? They were recognised by their peerless and princely aspect and taken before the King who kept them as hostages of the enemy. Athigaman the King had them locked up in a tower and strongly guarded. He was not unaware of Cheraman's growing disaffection, and not unacquainted with his elaborate preparations not only to regain his lost territory, but also to inflict such injury on Athigaman and his Capital as would avenge his losses in the past. Fortune had put it in his way to deal effectively with the situation.

Meanwhile Cheraman whose fondness for his boy made it difficult for him to exercise the proper discipline over him, fretted over his loss and expedited the expedition on Thagadur that he had long contemplated. At first however he sent messengers to demand the restitution of his son and foster-son. Athigaman politely put off and procrastinated and preparations went forward on both sides.

The prison-house in which Irumporai and young Cheraman were lodged, happened to overlook a courtyard garden where Athigaman's daughter with her maids used to pluck flowers and play at ball. Whether it was so designed or was a mere accident, the reader will guess for himself.

(To be continued)

A GREAT AND IMPORTANT FIELD CONTINUED FROM PAGE 285

2. Special care to be taken to see that right type of experts and workmen are engaged who can produce an irrefragable quality.
3. Special care must be taken that the Managing Agents only get a reasonable amount for the troubles they undertake but they must not charge exorbitantly as it is usually the case with all the leading Industrialists. They must avoid tak-

ing co-operation of their friends and relations except on special merits.
Organisers and Managing Agents are not supposed to sell the factory to a Limited Liability Company and if they do so they must not charge for the simple reason of promoting a company.
If due care and attention is being paid on all above lines I am sure very great success can be obtained.

RADIO BASIC AND ACTIVE PRINCIPLES CONTINUED FROM PAGE 293

having an air-light-ship, or color signal-ship, with across-the-seas reflectors. We imitate Nature, and, as the eyes are used as reflectors to send out and receive impressions and the ear and the nose are used in a similar way, we cannot go wrong in extending the same idea to suit the demands of our mind's and soul's desire, and, as all things are created by thoughts, there will positively be a system unfolded and developed to

utilize, not only all visible rays, but also the so-called invisible waves and odic and aural rays. Truly, eye hath not seen nor ear heard of the glorious sights and sounds, lights and music soon to be witnessed in the heavens, as a result of the growing intelligence of the thought-creature, the Creator of all things has created in his likeness.

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SPAS AND WATERING PLACES OF GERMANY CONTINUED FROM PAGE 300

Homburg's courts are the finest. The theatre of this resort is reputed to be one of the best in Germany. Summer season is best in Homburg. The attractions of Bad Homburg as holiday and health resorts are manifold. This spa has no special season; its physicians and its waters are at the service of visitors from one year's end to another.

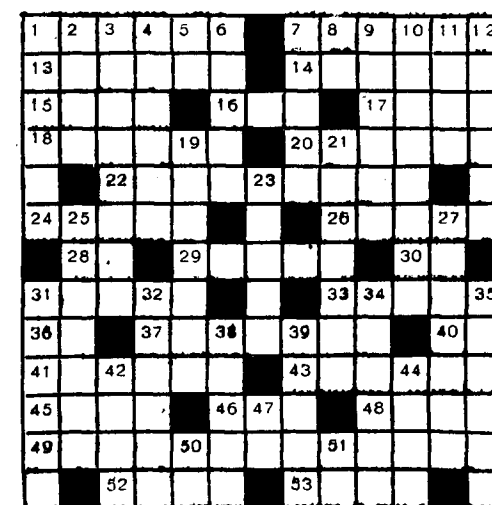
The spas and watering places of Germany—there are over a hundred and fifty of them—form her most valuable natural assets. Perfectly equipped in accordance with the most exacting requirements of modern hygiene and therapeutics, the health restoring centres are of immense use to all the world. The world fame of German sanatoria is thoroughly justified by the careful scientific training of their physicians, and the wonderful healing powers of their waters. The Ger-

mans,—a busy nation—has fully realised the great need for rest, all facilities for which are amply provided in their spas. Successfully and triumphantly have they achieved this, in their sanatoria, which are unrivalled. Situated amid natural environment, remarkably supreme in that sylvan charm for which Germany is famous, German spas and watering places are indeed the greatest boons and blessings to mankind.

All the seasons are alike refreshing and charming in Germany. The spring witnesses fruit trees resplendent in their vernal beauty. In the summer sunlit daisies glorify the fields. The forests are all aglow with colour in the autumn. The winter is characterised by snow fields and ice-rinks. Thus there is perpetual charm in the German sanatoria which are paradises on earth.

- ACROSS
1. In fulfilment of a vow. 7. Dye. 13. Choric. 14. Market-place. 15. Roman Censor. 16. Position. 17. Voice. 18. Muse. 19. Genus of plants. 22. Hazards. 24. Russian hemp. 26. Subduces. 28. Unit of weight (abb.). 29. Pillage. 30. Roman coin. 31. End. 33. Wash. 36. Musical note. 37. Seat. 40. About. 41. Plant. 43. Ethnological term. 45. Journey. 46. Attention. 48. Subaquatic plant. 49. Hard coatings. 52. Insects. 53. Account.

- DOWN
1. Mathematical term. 2. Fish. 3. Add up. 4. Phantom. 5. Roman numeral. 6. Acclamation. 7. Endure. 8. Sometimes seen on cheques. 9. Flower. 10. Charm. 11. Armadillo. 12. Fragrances. 19. Repeat. 21. Prosaic. 23. Relating to oil. 25. Fish. 27. Excuse (Law). 31. Colouring principle. 32. Curb. 34. Involve. 35. Enclose. 36. Lock. 39. Revolutionary leader. 42. Orkney Islands. 44. Genus of plants. 47. Preposition. 50. Musical note (Guido). 51. Thanks.



The following is the solution of last month's puzzle:

- ACROSS
1. POSSET 6. BEHAVE 12. HAVEN 13. RAVEL 14. SLOGAN 15. FORAGE 17. TAW 18. SET 20. SA 21. AM 22. EMERITUS 25. SO 27. RADIO 28. REASON 31. ONOMES 36. MOT 37. STAR 38. DIRE 39. ADEN 42. HE 43. ADAMS 44. REMOTE 45. OR 47. KAT 48. ONE 49. OREGON 52. LI 53. LEND 55. SAKSIA 57. ESTOP 58. TEASING

- DOWN
1. POSTER 2. SHOWED 3. SAG 4. EVASIONS 5. TENET 7. EMOS 8. HARASS 9. AVA 10. VEGA 11. ELEME 15. LAMAS 19. TURMAE 23. RIG 24. SEER 26. OOMIAK 29. AS 30. NORMAL 32. OTHERS 34. TESTING 35. PAROLE 36. CEMENT 38. DD 40. DENES 41. NO 43. AROSA 45. TO 46. OGRE 48. EAT 51. NIS 54. DO 56. AI.



MONTH IN INDIA



In the passing away of Mr. Sen Gupta the Indian nation has incurred an irreparable loss. His sacrifices for the cause of Indian Nationalism are sources of inspiration to the young generation. As a true son of the soil, he gave up his lucrative practice in response to the "Call of the Nation" and gained enduring fame. He was a famous Member and an ex-Mayor of the Calcutta Corporation and a Nationalist Member of the Bengal Legislative Council. His premature demise will be deeply felt by every one in India. Romantic was his career and tragic his end. He was too well-known to all the leading institutions in India.

The belief among Hindus that the good often perish while the evil survive is supported by an incident of late in a village in the Punjab. It is said that in a family of three sisters and a brother one of the women was of easy morals and consequently a source of disgrace to the family. The brother tried to induce his sister to adopt better ways but his efforts were of no avail. One day deciding to kill her, he is alleged to have mixed a deadly poison in a glass of cold-drink intended for the woman, but she happened at the time to be busy with some other work. Her two sisters meanwhile came home from outside and seeing the glass standing invitingly on a table, drank its contents between them and died shortly afterwards. The brother has been arrested for the crime.

The startling discovery that even Delhi is not free from gangsters who kidnap girls and release them on payment of ransom came to light when, of late, two persons figured as accused on a charge of kidnapping one Subhadra and released her after two months on receipt of specified ransom.

The Government have sanctioned prosecution proceedings to be launched against Mr. Arthanari Mudaliar of Salem who is a Member of Salem District Board from Valapady circle. On the petition of Mr. Velaswamy Pandaram a defeated candidate at the election held in November last, the Tahsildar of Salem made elaborate inquiries in the matter of allegations of bribery etc. reported to have been had recourse to by Mr. Arthanari Mudaliar, the successful candidate and Adam Sahib, another defeated candidate. The reports of the Tahsildar were sent to the District Magistrate, who after orders from Government has now called upon the Tahsildar of Salem to file a com-

plaint in the First Class Magistrate's Court against Mr. Arthanari Mudaliar alone for alleged malpractices at election.

Mr. B. P. Gordia, Dewan of Morvi who went to Vienna under conditions of ill-health is now understood to be fairly progressing and is expected to return to India and resume his State duties in this month.

His Highness the Maharao of Cutch has sailed for Europe for a three and a half months' tour. It is understood that he will visit his grandson Prince Meghrajji at Geneva and then Maharajkumar Vijayarajji, heir-apparent who is undergoing treatment at the Riviera at Nice.

Mr. Suryashanker D. Mehta has been confirmed as Dewan of Cutch and His Highness has handed over administration to him in his absence from the State.

The Commissioner of Police, Bombay has issued orders to City Police Officers and men to 'take action freely' against those persons found parading streets playing musics either in moving vehicles or on foot. The step is taken with a view to prevent the nuisance caused by noisy demonstrations for Cinema and other advertising purposes and which it is said to be objectionable from the traffic view point. It is understood that music license for publicity purposes will not be issued in future.

The Bhavnagar State is considering a scheme to include Rs. 10,00,000 in the next year's budget for the construction of 200 open wagons and 100 covered wagons for the goods traffic of the new Port which is to be built at Ruva. The sum includes an order for two big engines. About sixteen thousand bales of African Cotton arrived here intended for Ahmedabad.

It is reported that the Mysore Trade Commissioner in London, Mr. Ranganath Rao will shortly be going on a world tour to enquire and report on measures calculated to analyse wood market for the Mysore sandalwood oil.

Reports received from Coorg state that cases of plague are still not appreciably reduced. It is further reported that the disease is spreading to Virajpet also. Necessary precaution for travellers seems essential.



CURRENT TOPICS



WASHINGTON

A vital issue in President Roosevelt's campaign to raise the purchasing power of American labour has been raised by the National Association of Manufacturers. The Association has recommended its members not to sign the voluntary "Blanket Code" (which fixes hours and wages of those industries which have not filed satisfactory codes of their own) until they have ascertained how the National Recovery Administration interprets the provision for workers now receiving higher wages than the minimum, but working longer week than the code authorises. The bulletin argues that if a relative para of the code means that hourly workers must be paid the same as weekly workers for a reduced number of hours then the contract in many cases becomes insupportable. Thousands of industries whose finances have been drained by three years' operation on losses, cannot possibly finance greatly increased labour costs pending certain delay in obtaining higher prices and greater sales. The bulletin argues where shorter hours would normally reduce weekly pay, the rates should be increased by equitable adjustment. According to official opinion it will be contrary to the code's purpose if it turned into a device for sharing work by reduction of wages of higher paid workers in order to compensate for wages of lower paid workers. Higher paid workers therefore are expected to be given equitable adjustments in the rates to compensate for shorter hours.

LONDON

"Child slavery in Ceylon" is the subject of an article by Sir John Harris, Parliamentary Secretary to the Anti-Slavery and Aborigines Protection Society. Sir J. Harris says that Liberia has shown and Ceylon seems like showing that it takes many generations to evolve humane and enlightened Administrations in tropical countries. There are still few signs of a halt in buying and selling children to-day. Five million people have the Government of the Colony in their own hands. The Government should lose no time in justifying its creation by the abolition of the system that every "adopted" child should be registered and inspectors should be appointed to see that the children are decently treated.

RUGBY

Plans are being prepared for holding a "British Week" in Finland from October 4, and many British

firms including those which have not hitherto traded with Finland are sending goods to be shown in the shop windows of the chief cities—The British Cruiser Yorkshire and the Band of 2nd Battalions. The Black Watch will visit Helsingfors on this occasion. British lawn tennis players and team of English folk dancers will visit Finland and British films will be exhibited in the Cinemas.

Mr. Ramsay MacDonald the Prime Minister who intended to fly to Lossiemouth for his holiday, changed his plans owing to unfavourable weather and left King's Cross station by the Edinburgh Express on the morning of the 29th July.

COLOMBO

A spark from a blacksmith's workshop falling on the roof of a house has caused a disastrous fire at Batticaloa on the 30th July which reduced about fifty houses to ashes and rendered over 300 people homeless. The damage is estimated at Rs. 10,000. A strong wind rapidly spread the flames from house to house.

SIMLA

The Government of India, it is understood, says the Hindu are considering the question of strengthening the 3,300 ft. long Dufferin Bridge on Ganges River at Benares, owing to the fact that modern conditions and the passing of constant traffic have necessitated certain structural alterations in the bridge constructed so long as 1887. The re-constructed bridge would provide a double railway track with a fifteen feet wide road-way on either side. Estimates and samples of the clay in the river have been put to a very rigorous examination. The actual work of reconstruction is expected to commence in the cold weather of this year, when the river level would be quite low. The present bridge over which the E. I. Railway runs is one of the magnificent approaches to Benares city, and travellers to this ancient city obtain their first view of Benares ghats from over this bridge.

NEW DELHI

Drawing the attention of Muslim Leaders to the "present conflict and division in the All-India Muslim League" a statement jointly issued by seventeen Muslims, recalls that since the time Mr. M. A. Jinnah had ceased to take any active part in it, the League had become "a victim of personal dissensions and

disagreements among some of the leaders". "It is very sad" the statement says, "that crisis has gradually come to such a juncture that our National pride nay our prestige does not allow sincere Muslims to keep quiet any longer in this respect, while the status and sound position of the League which has achieved through meritorious services and sacrifices rendered by the late Mulana Mahomed Ali, Hakim Ajmal Khan and Miam Sir Mahomed Shafi can hardly be seen to be in existence". The statement appeals to Muslim leaders to adjust their personal quarrels and dissensions which are affecting the social and political emancipation of the Muslims. The statement also argues that the Constitution of the League should be so amended as to enable Muslims of all shades of opinion to participate in the activities of the League "so that we may stand united in our just and reasonable demands and may do constructive work". A. P.

NAGPUR

Floods caused by heavy rains recently have swept away 300 houses rendering 2000 people homeless at Kamptee. The poorer classes chiefly untouchables are the worst sufferers. Mr. M. V. Griegson, the Deputy Commissioner and Police Officials visited the affected area and a relief Committee has been formed to render aids to distressed families. A. P.

CALCUTTA

The Calcutta Public may in the near future see the "robot" system of traffic at work at busy street crossings of the city. A demonstration given at Lall Bazaar of the "electromatic" device by which the regulation of traffic can be carried on without the help of human agency, it is said has so much impressed the traffic department of the Calcutta Police that they have decided to install two sets of this apparatus one at the junction of Chowranghee and Dhurumtalla Street and the other at Whoteaway's corner.

BOMBAY

It is reported that property worth Rs. 17,000 was stolen on the night of the 29th July from a well-known local firm of watch and clock manufacturers and dealers.

TANJORE

It is understood that the Government having declined to reconsider the request to waive their claim for an annual contribution of Rs. 15,000 from the Chattram Fund towards the maintenance of the Tanjore District Head Quarter Hospital, the Tanjore District Board recently passed a resolution regretting their inability to continue the contribution to the Hospital in view of the Financial conditions of the Chattram Funds. As advised by the Government the Board have resolved to appoint three assistant Panchayat Officers in the scale of Rs. 75-5-100 and to meet the cost from general funds.

MANGALORE

The members of the S. Kanara Aliyasanthana league who met last month under the Presidency of Divan Bahadur B. Mahabala Hegde, Avl., B. A., B. L., after a long deliberation came to the conclusion that the new Aliyasanthana Bill proposed to be introduced in the Legislative Council is premature and is brought forward without consulting the league—the recognised representative body. The league further was of opinion that a committee should be formed to tour round the district to feel public opinion and it was resolved in the meantime, to request Mr. A. B. Shetty the sponsor of the new Bill to drop the Bill and to co-operate with the league.

It is understood that Khan Bahadur Mohamed Schammad Saheb Bahadur, M. L. C. intends moving resolution in the Legislative Council for amalgamating South Kanara with Malabar in order to have a separate Kerala Province.

Diwan Bahadur Alexio Pinto, the grand old man of Mangalore died at the ripe old age of 93 on July 26th morning. Born on 14-9-1840 he began life as a clerk in Government Service and by dint of his hard and meritorious service retired as Deputy Collector in 1898. Government conferred on him the title 45 years ago and he was the oldest title holder in the Madras Presidency. Four of his sons who held high posts in Service have already retired and he leaves behind a large family to bemoan his loss.

The late Mr. Ramachandra Naik is reported to have donated a sum of about a thousand and five hundred rupees to the Canara High School, and a sum of two hundred and fifty rupees to the Mahila Sevashram, Mangalore.

WHEN IN BOMBAY

STAY AT

THE MODERN HINDU HOTEL

(Ballard Pier Tram Junc. Fort.)

Situated in a healthy locality and within easy reach of Railway Stations, Docks and all business centres.

Provides at Moderate charges well furnished rooms fitted with Electric lights and fans and excellent vegetarian food, specially suited to South Indians.

Patronised among others, by:

Palace Officers of Mysore.

Sir Vasudeva Raja, Kt. of Kollengode.

Dewan Bahadur Krishnamachariar,

Dewan of Baroda.

Sir K. V. Reddy, Kt., Madras.

Telegraphic Address:—"SOJOURN"

370 CA

THINGS OF INTEREST

Less Sleep and More Work

The Director of scholastic activities at Duisburg, in the Rhineland, has been making experiments which, he claims, show that we sleep too much and at the wrong times. His idea is that four to five hours' sleep out of the twenty-four would serve admirably if we would only arrange to take it before midnight. He tried his system on several youths, who found (or so the experimenter says) that if they went to bed at 7 p.m. they woke naturally shortly after eleven and were then able to get up, work through the night, "and then go to school or office the next day." They carried out this system for periods ranging from six months to a year, while "their health and appetite were unimpaired or even improved." These things may be so, but, as a commentator in the "Lancet" remarks, "after all, young children are asleep in the ordinary way during the magic hours of 7 to 11-30 p.m. and do not seem anxious to get out of bed before daylight." But perhaps it is only the adult or adolescent who can subsist on some five hours "beauty sleep" before midnight, followed by a working day (and night) of some sixteen or seventeen hours. As a method of "getting on with the job" it certainly puts all the old maxims about early to rest and early to rise far into the shade. But as a general rule of existence, what a mess it would make of many of our accepted arrangements for civilised life! The entertainment industry in particular would be very hardly hit, for there would be no room for anything but matinee performances. But it sounds a hard life, in spite of these Rhineland recommendations. If it cannot be described as burning the candle at both ends it is the equivalent of supplying the candle with two wicks and lighting them both at once.

New Process

World-wide interest has been aroused in a recent development by the Sheffield Gas Company, which has successfully overcome the difficulties connected with the heat treatment of steels, viz., the prevention of the formation of scale and of decarburisation.

In the various heating processes which steel is required to undergo such as hardening and annealing, the formation of scale and production of an outer decarburised layer have always been serious factors with which to contend, and have proved to be very costly. These troubles have become worse since the advent of high speed steels and complex alloys, which demand the use of very high temperatures for their successful heat treatment.

The Sheffield Gas Company has now developed and patented a process which has been proved to be able to prevent the formation of scale and production of decarburisation on any steel at any temperature.

The process has been successfully demonstrated to over 80 Sheffield firms and firms in other parts of the country, and numerous enquiries have been received from France, Germany, Belgium, the United States and Canada.

The process has been used for the hardening of high speed steel milling cutters, twist drills, reamers, dies, taps, etc., the hardening of straight carbon tools of all descriptions, and the hardening of strip steel and wire.

This process marks a new era in the heat treatment of steels and alloys, and will no doubt become standard practice throughout the steel industry.

The Use of X-Rays for the Testing of Materials

Most people associate X-rays exclusively with tests in the medical domain; but they have also been found very valuable in connection with the testing of materials. Professor Röntgen already occupied himself with this subject. The methods of testing, however, could not—at that time—transcend the primitive stage, this being due to the low efficiency of the inductors and to difficulties relating to the treatment of the gas-filled iron tubes. It was not until the efficiency of the apparatus used had been sufficiently increased that further progress was made in connection with the testing of materials.

X-rays have now been used for a considerable time past for the examination of welded seams and riveted joints in steam boilers and high-pressure containers. In order to enable the testing appliances to be used for a large variety of purposes, they have to be as small and handy as possible. In stationary plants the high-tension and radiation protection has always been sufficiently safe; but in portable ones the dangers to which the attendants would be liable have only been overcome quite recently. The cables required to connect the various parts have been a special source of danger; but the high-tension cables now turned out by the firm of Siemens & Halske constitute an excellent solution of the problem. They contain several concentric layers of conductors which convey both the heating current and the high-voltage direct current. They also serve as condensers. The outer covering of the very carefully insulated cable, like the whole of the apparatus manufactured by Messrs. Siemens & Halske, is connected to earth, so that the operators

cannot be injured, even if the insulation should be defective. The whole plant is of very small size and easily portable. The high-tension generator, for instance, is divided into two units, each of which weighs about 150 lbs. and supplies a maximum tension of 100 kilovolt against the earth. The X-ray tube is in an oil bath and can be conveniently introduced into the boiler or other object which it is desired to examine, by way of the manhole. The rectifier tube, too, is in an oil bath inside the casing of the high-tension generator, so that it is protected against damage. The high-voltage direct current is generated in a special connection, in which the high-tension winding of the transformer is connected in series with a condenser, i. e.,—in this case—the cable. During one semi-wave the condenser is charged up to the maximum amount of the transformer tension. The discharge during the second semi-wave is blocked by the rectifier tube, so that the condenser tension and the transformer tension supplement one another, or—in other words—the X-ray tube then contains twice the transformer tension.

The two generator cases can be connected parallel or one behind the other. They then supply 100 or 200 kilovolt respectively, for 20 or 10 milliamperes. Any voltage from 70 to 300 volt is suitable for primary connection. The tube voltage can be adjusted to 8 stages by a regulating transformer, so that the entire domain of coarse structural alterations is suitable for

observation. Mild steel, for example, can be tested at moderate exposure times, provided that its thickness does not exceed $3\frac{1}{2}$ inches (80 mm.).

A Cheap Rotary Duplicator

A firm is on the market with a good rapid rotary duplicator which they sell at a very reasonable price. The new duplicator is of the drum type capable of finishing 1,000 copies per hour in single or multi-colour print. From a written or drawn original the machine supplies 5,000 copies. The copies are little distinguishable from the original. The machine is provided with interchangeable feed rollers, nickel-plated feeder table with fence and adjustable pressure device, interchangeable drums for multi-colour print, start and cut-out for the feed roller, and a stop signal indicating that the copy is finished. As the drum is completely enclosed, the ink cannot possibly splash about.

The copies produced with the duplicator are dry and ready for dispatch the moment they leave it.

Another model of this same type of machine operates all-automatically, i. e. with automatic self feed for the paper, automatic inking and sheet counter with zero position. The machine has a completely silent operation. Since the roller is pressed away from it, the drum can never jump. This model has an output of 5,000 copies per hour. All sizes of sheets can be used with this machine, from folio to postcard size.

Reviews

REMARKABLE INVENTION OF THE AGE

The advent of the "UNIVERSAL-COPY" Apparatus represents the most definite advance made in business correspondence method since the introduction of the Typewriter itself. It reduces the cost of every letter and speeds up the work of every Typist.

With the Universal Attachment the typewriter becomes for the first time in its history a complete, self-contained machine, ready instantly to do its full job in a quicker, easier and cheaper way than ever before, which means a speeding-up of typist's work and a substantial cutting of office costs.

This new invention called the "UNIVERSAL COPY" permits copies to be made through ribbons which are struck simultaneously with the typewriter spool ribbon. The copies are therefore in ink and as indelible as the original sheets and undoubtedly there is a substantial cutting of costs, something beyond 200 per cent.

So simple is the invention and when you have learned the secret so obvious that most office experts use it. Previous efforts to solve the copying problem have been on the principle of having duplicate ribbons working on spools, but this has necessitated the manufacture of intricate machines of high cost.

The new appliance costs very little, already it is being used throughout the world and recently in many parts of India.

Official opinion has already been expressed that the copies made by this new process are legal documents for contracts and agreements owing to the fact that they are ink impressions. This is of course of great importance to the Lawyers and others who at present have to retype each copy of documents.

This Apparatus has been demonstrated in various Departments of the Government of India, and certificates of approval have been awarded by the authorities concerned.

The Universal Copy Apparatus (India) Agency of 110-112, Cowasji Patel Street, Fort, Bombay, the Sole Distributors in India, Burma and Ceylon claim that it is the most important advance made in business equipment since the introduction of the typewriter.

KETTLE DRUMS

Mr. N. Ramabhadran, B. A., Tiruvarur is issuing a book called *Kettle Drums* being a collection of short stories and miscellany with a foreword by Mr. R. S. Sarma, C. I. E., M. L. A., which will be out shortly. The book in our opinion would make an interesting volume to all lovers of stories and the author's attempt in bringing it out will be met with success.

CHALKS—WHITE AND COLOURED

We have received a few samples of these from Mr. T. S. Chakrapani, Attikadai, Koradacheri. Consistent with the most moderate prices and free packing and delivery we think it would be advantageous to use these.

WAY TO LIVE

Way to Live. By Shri Yogendra, Founder of the Yoga Institutes in India and America, Post Box 181, Bombay. pp. 96 with 11 Illustrations. Price Re. One only.

We heartily welcome this third volume of the Pocket Health Series by Shri Yogendra. It treats in care of the various important organs of the body viz. teeth, mouth, tongue, nose, throat, ear, eye, digestive organs and skin etc. Besides outlining the anatomy, physiology and pathology of the various organs, the author supplies the most reliable practical instructions a layman needs to keep these organs in their healthy condition. The volume is full of every-day-use information on all points of importance. It throws light on the right *Way to Live*; and certainly to the earnest students of health, this work should prove to be of inestimable value. Emphasis has been laid on the health of the internal organs which remain neglected in our modern hurry-worry life, and the Yogic methods best suited for this purpose recommended. It is a book which should be in the hands of every health-loving man and woman.

We strongly believe that if introduced in the educational institutions as physical culture text-books, these volumes of the Pocket Health Series will supply the great need of reliable literature on practical means of healthful living.

THE TALE SPINS PAGE

He—Your husband looks like a brilliant man. I suppose he knows everything.

She—Don't fool yourself, he doesn't even suspect anything.

First Stork—Say, why are you flying so slow?

Second Stork—I'm letting the minister get there first.

Mistress (explaining routine to new cook)—Now, my husband always goes to his club on Wednesday evenings.

Cook—I understand, ma'am. So he won't want no breakfast on Thursdays.

On the first day of the second semester in school, the little boys took their seats and waited until the teacher came down among them to get their names. The first one to whom she came replied that his name was Si.

"No," the teacher corrected, "you mustn't say Si. Say Silas."

Next she came to one who said his name was Tom.

"Sorry sir," answered the waiter, "the orchestra is playing that."

Frowsy Gent—This liquor won't cause any damage to my eyes, will it?

Husky Bartender—Not if you've got the money to pay for it!

Chief of the Police—Can you give a description of your missing cashier?

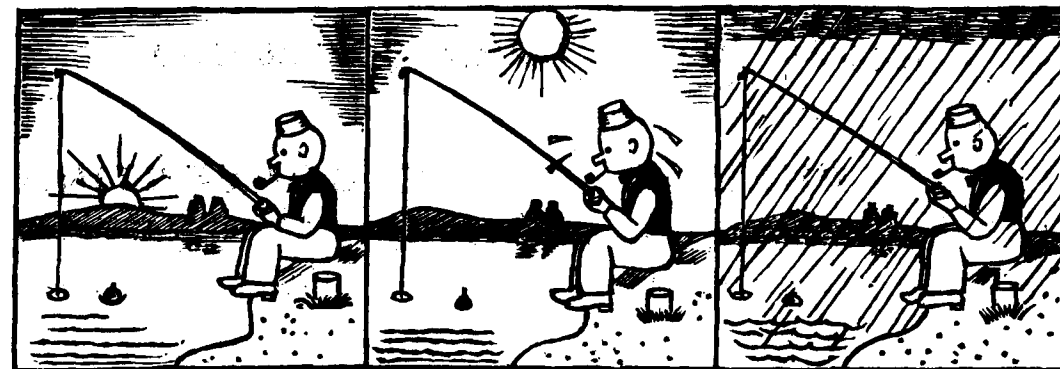
Banker—He is about five feet five inches tall and \$7,000 short.

Irate Golfer—You must take your children away from here, madam. This is no place for them.

Mother—Don't you worry—they can't hear nothing new. Their father was a sergeant-major, 'e was.

Old Lady—Little boy, does your father know you smoke?

Little Boy—Does your husband know you speak to strange men?



*Calm is the
sea . . . from
4 A. M. to 8 P. M.*

"No," the teacher said impressively, "it's Thomas."

"And now, little boy," she inquired of a lad in the end row, "what is your name?"

"Jackass," responded the bright lad.

"I act half-witted when I've had a few drinks."

"Oh, does liquor sharpen your wits?"

He sat down at a highbrow restaurant, pointed to a line on the French menu card and said to the waiter: "Bring me some of that."



An Important Announcement

NEW NOMENCLATURE

INDIAN MAGAZINE

(A Cosmopolitan English Monthly)

MANGALORE S. K.

It is with pride and pleasure we announce that the "ALL INDIA TRADE MAGAZINE" which has been hitherto particularly devoted to Trade and Commercial activities, having popularly found its way among all classes of people in India and Overseas, will now continue to run as a Cosmopolitan monthly to suit the taste of all such readers under the new name of "INDIAN MAGAZINE" and discuss hereafter all subjects of Public and Social activities, in addition to its former motives. It is therefore unhesitatingly an admitted fact that the monthly will now be a friend-in-need of the general public of every profession.

By the by we have also to announce that the first issue under the new title will be dedicated to the "WASHINGTON Banner of Peace CONVENTION" and will be the "SPECIAL ROERICH PEACE BANNER NUMBER".

Special Roerich Peace Banner Number

DEDICATED TO THE

WASHINGTON BANNER OF PEACE CONVENTION

WILL BE OUT EARLY IN SEPTEMBER

AND WILL CONTAIN AMONG OTHERS THE FOLLOWING ARTICLES:-

Banner of Peace by Nicholas Roerich
Cultural Work of Roerich Institution
Business versus Service
The Law of Financial Independence
Perfect Sight without Glasses

Roerich Banner of Peace on Pilgrimage
Prayer for Peace and Culture
Media of Advertisement
Is a General War probable to-day?
Philosophy of Happiness

A large number of copies of this issue will be circulated throughout the globe.
Indeed, an excellent opportunity and a best medium for advertising.
Manuscripts for advertisement in this issue with remittance must reach this office on or before the 20th August.

RATES AS USUAL

Further Information from

THE MANAGING EDITOR

INDIAN MAGAZINE MANGALORE S. K.

THE TRANS-INDIAN AIR MAIL BETWEEN KARACHI AND CALCUTTA

Eastward.				Westward.			
Karachi	Dep.	Friday	afternoon.	Calcutta	Dep.	Tuesday	morning.
Jodhpur	Arr.	"	evening.	Asansol	Arr.	"	"
	Dep.	Saturday	morning.		Dep.	"	"
Delhi	Arr.	"	"	Allahabad	Arr.	"	"
	Dep.	"	"		Dep.	"	"
Allahabad	Arr.	"	midday.	Delhi	Arr.	"	afternoon.
	Dep.	"	"		Dep.	"	"
Calcutta	Arr.	"	afternoon.	Karachi	Arr.	Wednesday	morning.

MADRAS SHIPPING LIST

HOMEWARD					OUTWARD				
NAME OF STEAMERS	CALLING PORTS	DATE DUE	LEAVE FOR	DATE OF SAILING	NAME OF STEAMERS	CALLING PORTS	DATE DUE	LEAVE FOR	DATE OF SAILING
HOOGERK	Madras	12 Aug.	Antwerp, Rotterdam and Hamburg	12 Aug.	LAHORE SUMATRA	Madras	9 Aug.	Calcutta	10 Aug.
MANDALA	"	13 Aug.	Marseilles, London, Dundee, Hamburg, Antwerp, Rotterdam, Bremen and Middlesbrough	14 Aug.	EXPLORATEUR GRANDIDIER	"	10 Aug.	Singapore, Saigon & Haiphong	11 Aug.
BERNARDIN DE ST. PIERRE	"	20 Aug.	Marseilles	20 Aug.	NURMAHAL C. GRANT	"	10 Aug.	Bombay via Coast Ports	11 Aug.
CITY OF YORK	"	23 Aug.	London, Dundee and Dunkirk	23 Aug.	RAJULA MAHOUT	"	11 Aug.	Straits	12 Aug.
KOTA RADJA	"	23 Aug.	Pacific Coast Ports	23 Aug.		"	12 Aug.	Vizag. and Calcutta	13 Aug.
LAHORE	"	29 Aug.	London, Middlesbrough, Dundee, Rotterdam and Antwerp	30 Aug.	MARIENFELS VOLPI	Vizag.	14 Aug.	Calcutta	15 Aug.
DUMANA	"	13 Sept.	Marseilles, London, Dundee, Hamburg, Antwerp, Rotterdam, Bremen and Middlesbrough	13 Sept.	CITY OF D'URBAN	Madras	17 Aug.	Calcutta	18 Aug.
EXPLORATEUR GRANDIDIER	"	17 Sept.	Marseilles	17 Sept.	DUMANA BARBARIGO	"	20 Aug.	Calcutta	21 Aug.
BEHAR	"	26 Sept.	London, Middlesbrough, Dundee, Rotterdam and Antwerp	27 Sept.	GAMARIA	"	21 Aug.	Rangoon & Calcutta	22 Aug.
MASHOBRA	"	10 Oct.	Marseilles, London, Dundee, Hamburg, Antwerp, Rotterdam, Bremen and Middlesbrough	10 Oct.	ROHNA C. MACPHEE MANAAR	"	23 Aug.	Straits	24 Aug.
GEN. METZINGER	"	13 Oct.	Marseilles	13 Oct.		"	23 Aug.	Calcutta and Chittagong	24 Aug.
JEYPORE	"	24 Oct.	London, Middlesbrough, Dundee, Rotterdam and Antwerp	25 Oct.		"	26 Aug.	Cocanada, Vizag. & Calcutta	27 Aug.
DOMALA	"	7 Nov.	Marseilles, London, Dundee, Hamburg, Antwerp, Rotterdam, Bremen and Middlesbrough	7 Nov.		"	28 Aug.	Vizag. & Calcutta	29 Aug.
MULBERA	"	5 Dec.	Marseilles, London, Dundee, Hamburg, Antwerp, Rotterdam, Bremen and Middlesbrough	5 Dec.	UHENFELS CITY OF BATH GENERAL METZINGER	Madras	30 Aug.	Calcutta	31 Aug.
					RAJULA	"	7 Sept.	Singapore, Saigon & Haiphong	8 Sept.

TRAIN TIMINGS

Arrival and departure of the principal trains at Central and Egmore Stations (Madras: and the times of arrival and departure of the same trains at termini elsewhere in India)			
DEP:		ARR:	
MALABAR EXPRESS	Cen. Station 8-05 P.M.	Mangalore 4-25 P.M.	Mangalore 9-45 A.M.
CALCUTTA MAIL	Cen. Station 8-30 P.M.	Calcutta 10-20 A.M.	Calcutta 7-00 P.M.
BOMBAY MAIL	Cen. Station 8-40 P.M.	Bombay 6-00 A.M.	Bombay 10-00 P.M.
BOMBAY EXPRESS	Cen. Station 8-30 A.M.	Bombay 10-15 A.M.	Bombay 1-45 P.M.
GRAND TRUNK EXPRESS	Cen. Station 7-45 A.M.	Delhi 10-40 A.M.	Delhi 6-00 P.M.
BANGALORE MAIL	Cen. Station 9-30 P.M.	Bangalore 6-35 A.M.	Bangalore 9-00 P.M.
BANGALORE EXPRESS	Cen. Station 1-00 P.M.	Bangalore 7-40 P.M.	Bangalore 7-40 A.M.
BLUE MOUNTAIN EXP.	Cen. Station 9-15 P.M.	Ootacamund 12 NOON	Ootacamund 3-00 P.M.
WALTAIR PASSENGER (1)	Cen. Station 7-55 A.M.	Waltair 9-45 A.M.	Waltair 6-25 A.M.
WALTAIR PASSENGER (2)	Cen. Station 7-30 P.M.	Waltair 9-45 P.M.	Waltair 6-20 P.M.
INDO-CYLON EXPRESS	Egmore 9-00 P.M.	Dhanushkodi 4-25 P.M.	Dhanushkodi 10-45 A.M.
TRIVANDRUM EXPRESS	Egmore 7-30 P.M.	Trivandrum 7-45 P.M.	Trivandrum 6-30 A.M.
TRIVANDRUM FAST PASSR.	Egmore 9-30 P.M.	Trivandrum 5-45 A.M.	Trivandrum 9-45 P.M.
SHENCOTTAH PASSENGER	Egmore 6-50 A.M.	Shencottah 11-42 A.M.	Shencottah 2-10 P.M.
DHANUSHKODI FAST PASSR.	Egmore 11-15 A.M.	Dhanushkodi 6-15 A.M.	Dhanushkodi 6-40 P.M.
TRICHINOPOLY PARCELS PASSENGER	Egmore 10-40 P.M.	Trichinopoly 3-40 P.M.	Trichinopoly 12-50 P.M.
			Egmore 6-40 A.M.
			Egmore 7-35 A.M.
			Egmore 8-05 A.M.
			Egmore 7-25 P.M.
			Egmore 2-55 P.M.
			Egmore 5-35 A.M.



MARKET REPORT

Messrs. Peirce, Leslie & Co. Ltd. Cochin, Calicut and Mangalore



Cochin Market as on July 22nd 1933.

COIR AND ROPING YARNS. The market for all qualities continues to be firm owing to the demand being to a certain extent greater than the supplies due to the scarcity of raw materials caused by floods during the recent heavy rains.

Current Market prices are as follows:—

SUPERIOR ANJENGO.	Average price Rs. 68/-	per candy of 6 cwt. baled wt.
ORDY. ANJENGO.	59/-	
IMIT. ALLAPAT.	56/-	
ARATORAY YARN.	65/-	
REAL ALLAPAT YARN.	65/-	
FINE WEAVING YARN.	50/-	
COMMON YARN.	43/40	
ROPING YARN.	37/-	

ALLEPPEY PEPPER. Prices have moved within narrow limits and the market has kept reasonably steady throughout the month due to balance stocks being generally firmly held and the market having received all the support it needed from purchases on Indian A/c. Foreign transactions have been negligible. Present quotation Rs. 26/8/- ex godown garbled.

COCHIN GINGER. The prices quoted are largely nominal, export business in old crop having practically ceased. Stocks are about normal. Present quotations:—

Bleached Rs. 12/- per cwt. garbled.

Unbleached Rs. 10/8/- do.

COCOANUT OIL. Market closed at Rs. 76/4/- per candy for ready delivery with a slightly firmer undertone. There is no demand from shippers both foreign and Indian but speculators are enquiring. Millers are inclined to hold on. Some forward business has been done at:—

Rs. 78/- for 1 month delivery

Rs. 79/- " 2 months

Rs. 80/- " 3

MALABAR COPRA. Today's market price without engagement is Rs. 50/- per candy for Cochin Copra of 656 lbs. for ready delivery.

During the month of July about 2500 candies have been received in Cochin at prices ranging from Rs. 49/- to Rs. 51/-. The market is steady.

CEYLON ESTATE NO. 1 COPRA. During July about 16,500 bags of Ceylon Estate Copra each of 1 cwt. nett have arrived in Cochin and there is still about 2500 bags to arrive which are now afloat. These were purchased at varying prices ranging from Rs. 9/12/- to Rs. 9/4/- per cwt. for Cochin delivery during May/June. Against contracts closed during June/July there is about 8500 bags Ceylon Copra still to arrive for shipment in August bought at prices ranging from Rs. 9/8/- to Rs. 9/4/- per cwt. Cochin delivery.

Today's price of Ceylon Copra is Rs. 9/- buyers, but no sellers at below Rs. 9/8/- for August shipment. Tendency weak.

Calicut Market as on July 25th 1933.

COIR YARN. The market was steady during the month but at present the undertone is on the firm side owing to Calcutta demand.

Quilandy Yarn per candy of 700 lbs.	Rs. 42/8/-
1st Quality Beypore	do. " 42/8/-
No. 1 Beypore	do. " 37/8/-
No. 2	do. " 32/8/-
No. 3	do. " 27/8/-
Fine Unsoaked Yarn	do. " 28/-

GINGER. These prices are nominal and owing to the monsoon no business is passing.

Bold Chernaad per candy of 700 lbs.	Rs. 70/-
Ordinary	do. " 60/-

PEPPER. The rise in the market was due to Calcutta demand. At present the market is weak on account of absence of orders from Europe and Calcutta.

Price per cwt. f.o.b. Rs. 31/-

Mangalore Market as at date.

COFFEE. Practically no business has been done during the past month, and very little enquiry is being received from Europe for the unsold monsoon Native coffee held by exporters and dealers. No business is passing in Mangalore and consequently prices cannot be quoted.

RAW CASHEWNUTS. After being firm at the opening of the month with prices ranging round Rs. 3/12/- per moora of 65 lbs. ex godown the market has fallen heavily due to absence of demand for kernels from U.S.A., and possibly to some extent due to depreciation of the U.S.A. Dollar. Today's price sellers Rs. 3/3/- per moora of 65 lbs.

TEMPERATURE AND RAINFALL CHART

POONA, July 31.

Stations	Shade Temperature		Rainfall			
	Maximum	Minimum	Past 24 hours	Total since June 1	Departure from Normal	
Bangalore	73	66	0.8	7.5	+	0.4
Bellary	80	72	0.1	3.4	-	0.8
Bombay	80	74	4.8	24.4	-	18.1
Calcutta	90	81	0.7	32.9	+	8.5
Cawnpore	98	83	..	9.8	-	4.1
Calicut	82	73	2.0	69.9	+	5.6
Cochin	83	74	0.5	50.3	-	1.1
Colombo	84	77	0.1	17.5	+	4.4
Coimbatore	82	72	0.2	1.7	-	1.4
Coonoor	65	59	0.2	3.2	-	..
Cocanada	85	75	1.0	10.6	-	0.1
Cuddalore	89	79	..	4.1	-	0.5
Cuddapah	82	74	0.3	5.5	-	1.4
Delhi	86	74	0.7	20.8	+	10.3
Gopalpur	86	78	1.3	13.8	+	3.1
Karachi	88	79	..	15.4	+	11.6
Kodaikanal	57	51	..	6.8	-	2.8
Kurnool	77	72	6.1	8.6	-	4.1
Lahore	85	77	0.2	4.9	-	2.8
Lucknow	98	84	..	7.0	-	8.7
Madras	83	76	..	1.8	-	4.0
Madura	84	80	..	2.4	-	0.9
Masulipatam	78	74	2.8	16.1	+	5.1
Mangalore	82	73	1.5	94.6	+	20.7
Mercara	66	62	2.7	75.4	+	8.1
Nagapatam	92	80	..	0.9	-	2.3
Nellore	80	74	0.3	7.8	-	1.8
Palamoottah	..	..	..	1.9	+	0.9
Pamban	90	80	..	0.2	-	0.5
Peshawar	102	83	..	0.9	-	0.7
Rangoon	79	74	6.9	44.3	+	4.8
Salem	87	75	..	8.7	+	6.8
Simla	68	60	0.5	20.2	-	5.8
Trichy	90	79	..	1.3	-	1.7
Trivandrum	82	74	0.8	33.6	+	12.8
Vellore	81	74	0.1	1.8	-	5.8
Vizagapatam	83	76	2.5	6.7	-	2.7

Patent Service of the "All India Trade Magazine"

Firms which are interested in any of the following Patents and Licenses etc., should make direct application for additional information to the "Export-Service" Department of the ALL INDIA TRADE MAGAZINE quoting the reference number.

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P. A. 136 Money-changing Automaton, for changing large coins into coins of smaller value. The automaton can be employed for various purposes, either singly or in combination with other money-in-the-slot machines. The automatic apparatus on which a patent is pending in Switzerland, possesses priority rights in all industrial countries.

P. A. 139 Process for the Manufacture of a Boiler-scale Protection Composition. (More than 900,000 Kilos already sold.)

Process for the non-Rusting Storage of nails and screws in tropical countries and for export.

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P. A. 147 High-speed Darner "Rekord" (Registered, German Patent, foreign Patents pending). A cheap wholesale article which will be bought by every housewife. Licenses still available for foreign countries.

P. A. 148 A Cheap Hand-Manifolding Apparatus. Licenses can still be issued for all countries.

P. A. 153 Pharmaceutical Preparations. Manufacturing Rights can be granted.

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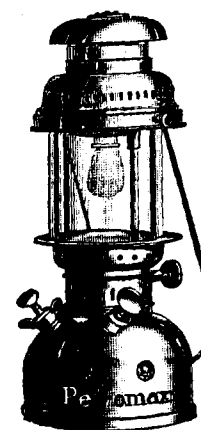
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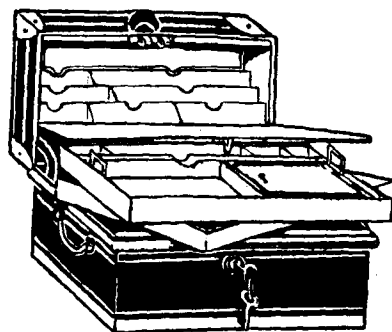
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Who is who? PRIZE RS. TEN IN BOOKS

Here is something new and very simple in competition for which prizes as detailed below are being offered by the All India Trade Magazine. In the picture you will see a group consisting of AN ARTIST, A PRINTER, A BUSINESSMAN, A LAYMAN and A CUSTOMER—all are seen discussing among themselves as follows:



Layman: Hallo! real-
ly nice printing,
where do you get
it done?

Businessman: It is done
at the B. M. Press,
who are well-known
for high standard of
printing in India.

Printer: Yes, why we
are popularly known
is because of our
motto—to give satis-
faction to our custo-
mers in every respect.

Customer: Quite so,
the high standard of
work done by the
B. M. Press for their
customers is regard-
less of the cost one
pays for it.

Artist: Indeed, speci-
ally because of their
excellent turn out in
multi-colour print-
ings.

Now, what you have to do is to identify who is who in the illustration. The number below each picture should in no way be compared numerically with the designation specified above but competitors may make their identification according to it. For example No. 1, is

RULES AND CONDITIONS:

1. All entries should be posted so as to reach this office not later than the 25th August. Competitors must write their name and address in block letters.
2. The Editor's decision shall be final. The winners' names shall be published in the September number of this Journal.
3. Prize should be claimed in the form to be published in our next number. No correspondence shall be entertained.
4. Prizes will be awarded to the correct solution or to any near to it. In case of a single tie an additional prize will be given but when there are more ties, lots will be taken and the successful candidate will obtain the prize.
5. The first winner shall be awarded with a prize of one copy of Picturesque India and our Magazine free of subscription for one year, the second prize: one copy of 32 Indian Colour Pictures, third prize: a copy of the Red-Ripe of the Heart and ten consolation prizes of one set each of Indian Land and Life Postcards.

ENTRY FORM

In entering the "Who is who competition" I agree to accept the Editor's decision as final and legally binding.

Signature:

Address:

SOLUTION:

1. 2.
3. 4.
5.



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Who can guess it

COMPETITION

Solution

The following is the Editor's sealed correct solution of the "Guess Competition" which appeared in our July issue:—

PRINTING FORMS

No competitor succeeded in giving a correct solution of the above Competition.

A solution nearest to the correct one, "PRINTING WORKS", was submitted by Mr. B. R. Kalbagh, Hubli, who will receive a consolation prize of one set of "Indian Land and Life Colour Picture Post-cards".

XVI

BE HAPPY

Happiness, though a common and loving thing in the world, has no recipe. Its search goes on eternally. Some think they find it while others challenge that it is not true Happiness they have found. Yet many declare that Happiness does not exist.

It is a matter of relativity. One's joy is another's sorrow. We must each seek happiness and work out our own destiny.

Sir Philip Sidney declared that "Doing good is the only certainly happy action of a man's life."

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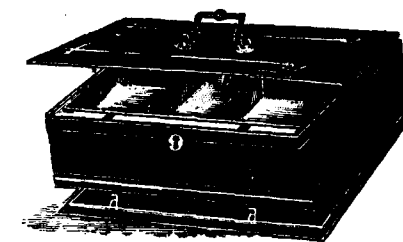
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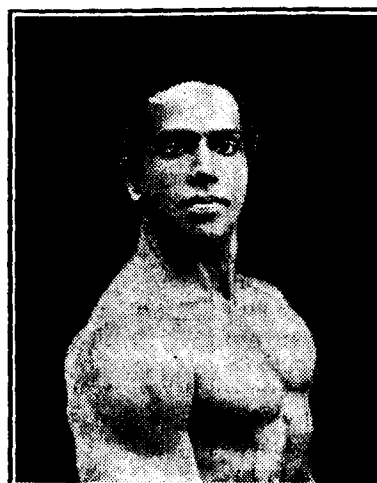
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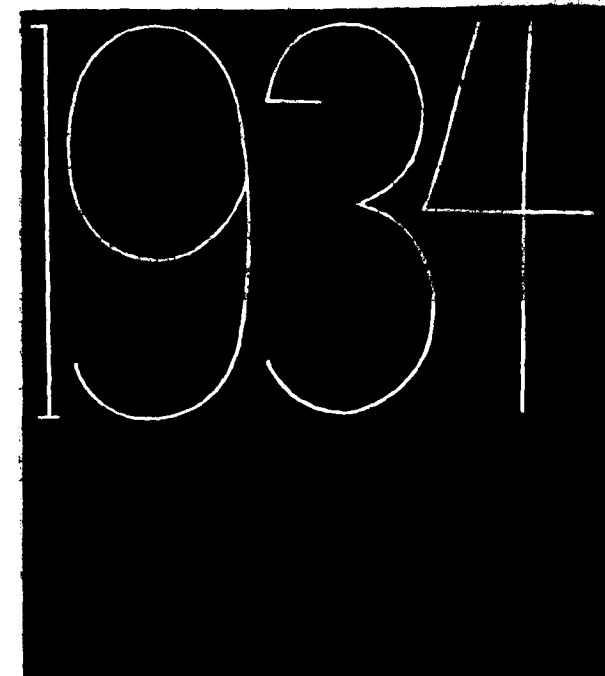
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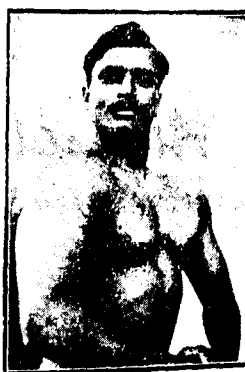
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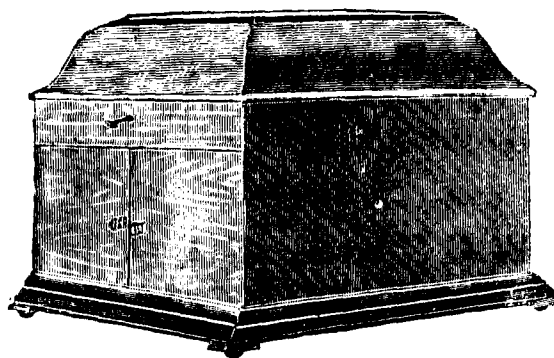
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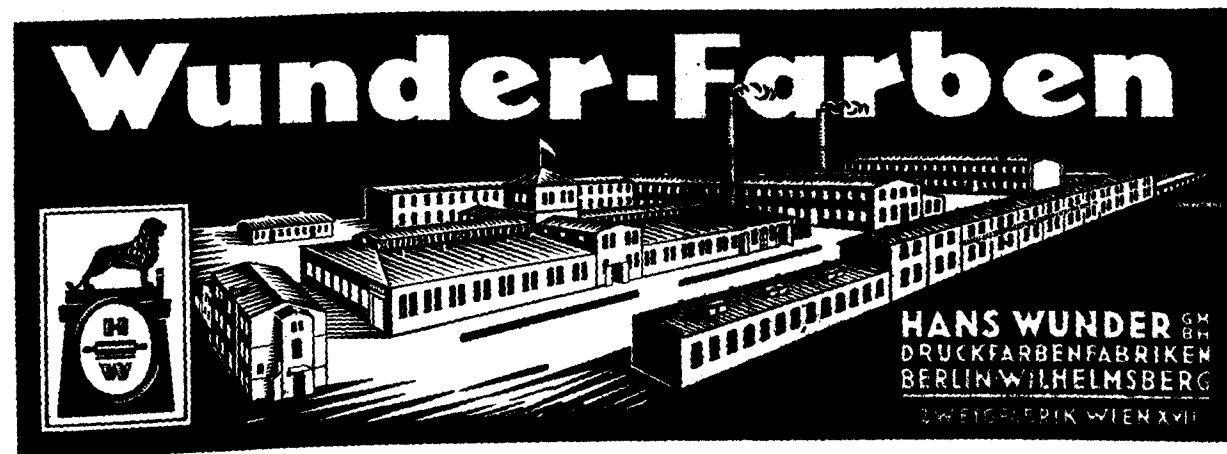
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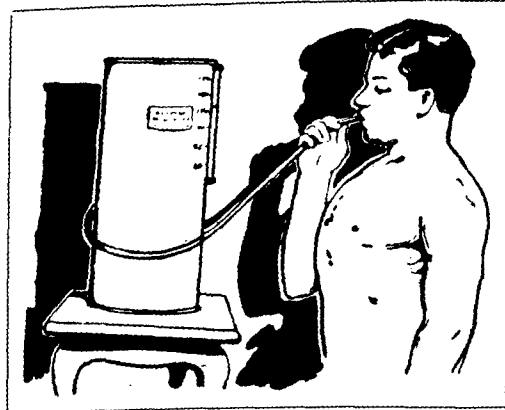
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