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Standardisation in Industry

By Mr. G. L. GULATI, Assistant Director, Indian Standards Institute's
Branch Office, Madras *

The Indian Standards Institution is the National Organization for Standardization created by a resolution of the Government of India in 1947. The chief aims for which the Institution has been established are: (a) To prepare and promote the general adoption of standards on national and international basis relating to structures, commodities, materials, practices, operations, etc., (b) to recommend to the Government national standards for the measurement of which length, weight, volume and energy and (c) to coordinate the efforts of producers and users for the improvement of materials, products, appliances, processes and methods. It is an independent body in the closest touch with industrial requirements and modern technical knowledge and working with the fullest Government support but free from Government Control. It is a public service organization working on voluntary co-operative basis. It is the biggest co-operative organization. The Institution exists to assist Indian Industry by preparing Indian Standard Specifications and Codes of Practices of which more than 1,200 have been issued. These standards are based on what is best in present practice, and do not attempt to attain an ideal which might be too costly to adopt, and provide a generally suitable standard of performance, quality or dimensions mutually agreed to by all the interests concerned. They form an equitable basis for tendering. The standards help to eliminate redundant qualities, sizes and shapes and enable manufacturers to produce quality goods at reduced cost. The affairs

of the Institution are managed by the Governing Council with the Cabinet Minister in charge of Industries at the Centre as its President. The Members of the Council represent the Central and State Governments, selected industrial, trade, scientific and technological organizations and the subscribing members of the Indian Standards Institution.

In the preparation of standards the Indian Standards Institution functions through Technical Committees and sub-committees, consisting of scientists, technologists and representatives drawn from industry and Government organizations. There are about 900 such committees working under the agencies of the Indian Standards Institution. The total membership of these committees is about 9,000 and comprises experts representing country's diverse interests of trade, commerce, industry, technology and Government Departments working collectively to prepare national standards.

The Indian Standards Institution Certification Marking Scheme which is working under an Act of the Indian Parliament is intended to serve the inexperienced and busy consumer, who though willing to pay for quality, is unable always to secure it with confidence. It also protects the manufacturer of quality products against competition by the producer of cheap and undependable goods. It is working for the benefit of the producer, the trader and the consumer and thereby forms an instrument in developing Indian trade on sound lines.

* A talk delivered at the Madras Industry Association, Madras.

I.O.J.-1



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The delay in publication of this issue, due to heavy pressure of work in the press, is much regretted.

—Editor

The Indian Standards Institution Mark, which is internally recognised through standards bodies of other countries, is a third party guarantee and therefore creates confidence in foreign markets and helps in promoting export. The Indian Standards Institution is in direct touch with the standardizing bodies of the foreign countries and takes active part in the work of

Commonwealth Standards Conference, the International Organization of Standardization and the International Electro-technical Commission. Wherever questions of Indian interests in trade with other countries are concerned the Indian Standards Institution makes full efforts and the Secretariat of International Committees on such subjects are held by Indian Standards Institution.

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Palm-leaf Industry in Madras State

No part of palmyra is without utility.

From the multifarious uses of the palmyra tree it is right in the saying that palmyra is a "Karpagatharu". Each and every part of the tree such as leaves, earku, fibre stems, strips, wood, root, etc., is the raw material for the various small cottage industries in the villages from which fancy and domestic articles are prepared by the villagers. The fancy articles created a very good demand not only in India but also abroad.

Education begins with Palm-leaf.

From time immemorial palm-leaf served as a reading and writing medium not only in India but in ancient countries like Egypt. The first school-going children carry a long leaf 'Yadu' (60) of 30 inches by 2 inches size and script is taught in palm-leaf. The ancient philosophical, mythical, ayurvedic and all sorts of highly valuable literatures were written on palm-leaves and they are still preserved as the cultural treasures of the country. The records at Saraswathi Mahal, Panjore, Oriental Library, Hyderabad and Manuscript Library, Trivandrum, throw sufficient light on the significance of palmyra tree. Even now the Nattukottai Chettiars of Tamilnad maintain their commercial accounts on palm-leaf 'Yadu' only.

Palm-leaf served as a medium of communication before the invention of papers.

The wedding informations were written on leaves and communicated to their relatives and friends through special messenger intended for the custom. This leaf roll which was noted as 'Manavolai' was smeared at the ends with turmeric paste. The sad news was communicated in the same size with black marks at the ends. It was called as 'Savolai'. Even now the Indian Christians call the practice of confirming the marriage of proposed couples consecutively on three Sundays as 'Manavolai Vasithal'. There are ever so many authentic proofs to show that palm leaf served the entire purpose of paper.

From time immemorial the records of palm leaf are well preserved. Apart from the sacred ideology, the custom of celebrating 'Saraswathi Puja' is to arrange and clean the palm-leaf records every year. The performance of Deepa Archana with camphor and incense is to preserve the leaf records from the fungus and pesticides. If the letters are illegible the soot will be smeared on the leaf for clear reading. Our forefathers have rightly selected the palm-leaf and properly preserved them.

Manufacture of domestic and fancy articles with palm-leaf is carried on as a Cottage Industry in the following places in the State.

Statement showing the particulars regarding the manufacture of palm-leaf products in the State—

Serial number and place of production.	District.	Name of the product.	Purpose of the articles.	Commercial markets.
(1)	(2)	(3)	(4)	(5)
UTILITY ARTICLES.				
1 Tiruchendur	Tirunelveli	Mats, baskets and onion baskets.	Packing of goods jaggery, tobacco, yarn, cloth, onion, etc.	Coimbatore.
2 Udangudi	Do.	Do.	Do.	Vellore.
3 Kulasekarapatnam ..	Do.	Do.	Do.	Madras.
4 Pudukottai	Do.	Do.	Do.	Thang.

Serial number and place of production. (1)	District. (2)	Name of the product. (3)	Purpose of the articles. (4)	Commercial markets. (5)
UTILITY ARTICLES—cont.				
5 Sathankulam ..	Tirunelveli ..	Mats, baskets and onion baskets.	Packing of goods, jaggery, tobacco, yarn, cloth, onion, etc.	Madurai and Virudunagar.
6 Marthandam and surrounding villages.	Kanyakumari ..	Baskets ..	Packing of goods and shopping.	Thoduveth and Nagercoil.
7 Keelakarai ..	Ramanathapuram.	Vegetable baskets, hand-bags of different types, travellers bag and suitcases, etc.	Shopping and carrying personal belongings, etc.	Rameswaram, Ramanathapuram and Keelakarai.
8 Ramanathapuram ..	Do.	Do.	Do.	Do.
9 Uchipulii ..	Do.	Do.	Do.	Do.
10 Alangulam ..	Do.	Do.	Do.	Do.
11 Tondi ..	Do.	Do.	Do.	Do.
12 Tiruppullani ..	Do.	Do.	Do.	Do.
13 Tiruvadanai ..	Do.	Do.	Do.	Do.
14 Rameswaram ..	Do.	Do.	Do.	Do.
FANCY ARTICLES.				
1 Manapad ..	Tirunelveli ..	Garlands, flowers, bouquets, baskets, bags, seats, amp, shades, curtains, etc.	Reception fancy and decoration.	Madras, Bombay, Bangalore and Delhi.
2 Pathianathapuram ..	Do.	Do.	Do.	Do.
3 Chittankottai ..	Ramanathapuram.	Seats, baskets, hats, ornamental hand bags, suitcase, etc.	To carry personal belongings during camp, fancy.	Madras, Bombay, Calcutta, Rameswaram, Bangalore, etc.
4 Tiruppullani ..	Do.	Do.	Do.	Do.
5 Ramanathapuram ..	Do.	Do.	Do.	Do.
6 Nagoor and the surrounding villages.	Tanjore ..	Folding fans, hats, ornamental hand bags, painted toys, etc.	Fancy products ..	Madras, Bombay, Calcutta, Lahore and the prominent cities in the North.
7 Pulicott ..	Chingleput ..	Kiluku, toys seats, etc.	Do.	Madras.
8 Mathur and the surrounding villages.	Salem ..	Fancy bags, seats, garlands, flowers, table lamps, shades, curtains, etc.	Fancy and utility.	Madras, Bombay and Bangalore.

Problems facing the Industry in the traditional process and the activities of the Department to develop the Industry.

1. ABSENCE OF ORGANIZATION AND SYSTEMATIC TRAINING.

The Industry, although it was carried on in different parts of the State at some level,

was not an organized one. In some of the places it was pursued as a hobby only and there was no regular production and standard. It was very common among the artisans of this trade not to reveal the different processes involved in the Industry. They seemed to conceal the facts about the industry as their hereditary rights.

With a view to solve this main problem and also to develop the industry in an organized manner, and to effect improvements in the products manufactured by them and to introduce novel designs to suit the changing taste of the consumers in

India and abroad, this department formulated four schemes to offer systematic training in the improved technique and design. Qualified artisans and technicians were appointed in the Centres and offered required guidance and instructions—

Serial number and places.	District.	Can'ti- dates trained.	Period of training.	Stipend. Rs.	Nature of training.	Number of artisans other than trainees bene- fited by the free supply of improved tools raw materials and technical advance.	Total cost of the schemes. Rs.
1 Manapad ..	Tirunelveli ..	20	9 months	25	Manufacture of artistic articles with improved technique.	200 artisans	15,551
2 Chittankottai ..	Ramanathapuram.	20	9 months	25	Do.	200 artisans	15,551
3 Pallapatti ..	Tiruchirappalli ..	18	14 months	25	Do.	..	17,141
4 Mathur ..	Salem ..	19	14 months	25	Do.	200 artisans	17,141

The Centres at Manapad, Chittankottai and Mathur were converted into Industrial Co-operative Societies at the end of the training period. Artisans other than members who were benefited by free technical advice and free distribution of improved tools and raw materials, etc., were also permitted to enrol themselves as members of the Societies along with the member trainees.

difficult for them to size leaves in very small sizes for making very fine handicraft pieces. Evidently the quality of the article produced from such raw material was very poor and far from satisfactory. This department solved this most vital problem by scientific approach and introduced a new technique in sizing with the help of a newly fabricated sizing tool which was invented by the technical staff of the department.

2. TRADITIONAL PROCESS OF SIZING THE LEAVES AND DESIGNING THE ARTICLES.

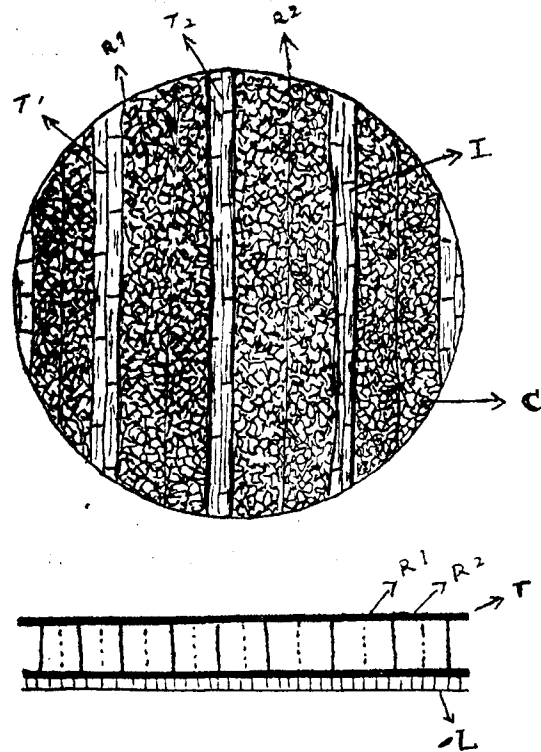
In fact the quality and standard of the piece depend upon the perfectness of the raw material. The artisans used to size the leaves to their required sizes with the help of a small knife. Even an artisan having 15 years' experience in sizing may not be able to size 3 lb. of tender leaf in an hour in uniform size. It was very

Natural formation of the leaf.

The average thickness of the palm leaf varies according to the soil. The space between the tender and ripe fibres are linked with a net work of cells which is irregular in shape and is to an extent filled with a sort of light yellow crystalline matter as we see on the upper and lower sides of the leaf.

MICROSCOPICAL SECTIONS OF PALM-LEAF.

FIG I.

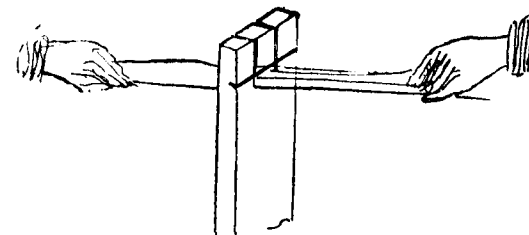
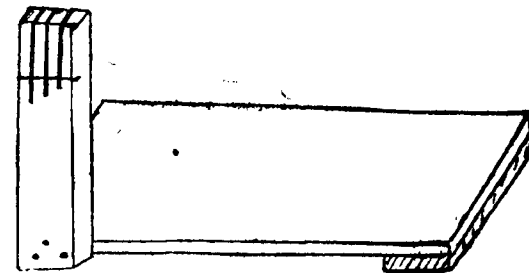


- T1, T2, etc. — are very tender fibres just forming.
 R1, R2, etc. — are more ripe fibres.
 I ... — The inter space between the fibres.
 C ... — Small net work of cells in between the longitudinal fibres.

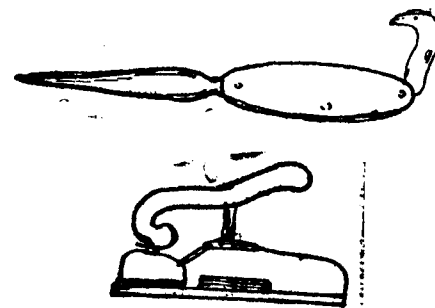
Figure No. 1—Microscopical sections of palm-leaf.

On account of this natural irregular shape of the leaves it was not possible for an artisan to size leaves according to his requirements. The newly invented leaf-sizing tool has simplified the process of sizing and remarkably increased the productive efficiency of the artisans. A trainee who has no previous experience in sizing of the leaves can pick up the art of sizing within no time and he is able to size

more than 6 lb. of leaves to the required sizes within an hour in uniform sizes. The technical Forum of the Palmar Development Department, All-India Khadi and Village Industries Commission, has practically tested the machine and appreciated the productive efficiency of the tool (Figure No. II). The methods of manufacture were simplified by the introduction of similar improved tools like clasp, poker-knife, wooden frame for weaving window curtains, petal cutting, punching tools, ect. (Figure No. III).

PALM-LEAF SIZING TOOL.
FIG II.

CLASP POKER KNIFE

PUNCHING TOOL
FIG. III, Nos. 1 AND 3.

WOODEN FRAME

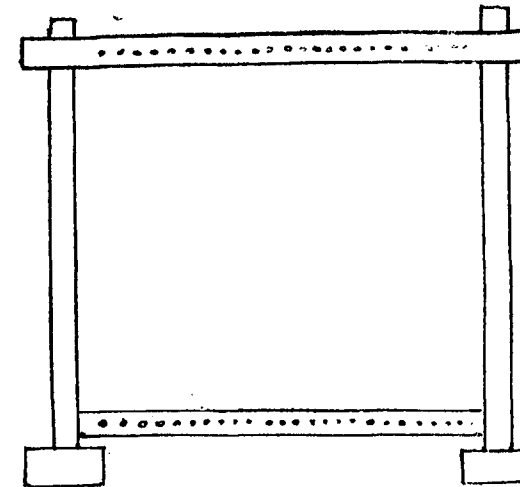


FIG. III, No. 2

3. FORMATION OF FUNGUS ON THE
THE FINISHED PRODUCTS AND THE STEPS
TAKEN BY THE DEPARTMENT TO PREVENT
THE SAME.

There was a general fear among the artisans, merchants and consumers about the formation of fungus on the finished goods and from the pesticides. The finished products were not able to be preserved with the same brightness and attraction when it was manufactured. Within a fortnight or so the goods lost their original beauty and appearance. Systematic training was given to the artisans in the scientific treatment of preservation and fumigation by which the articles never lose their elegance.

4. DYEING TECHNIQUE.

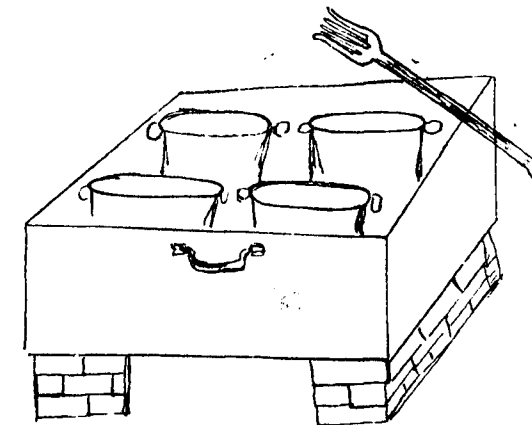
The artisans engaged in the palm-leaf industry had no clear idea about the dyes and the process involved in dyeing. The attraction of the article mainly depends upon the quality of the dyes applied and the scientific methods of dyeing. The ordinary dyestuffs used by them in the traditional crude method fade away within a short period. Curiously enough, even this crude method of dyeing was kept as a secret.

(i) The leaves and dyes were simply dipped into the boiling water and taken away after some time to be dried in the sun. The vessels used for dyeing were of clay. Direct heat was applied to the dye bath which resulted in uneven shade effect.

(ii) Only self-shades were obtained from dyes available and the shades produced were not harmonious to the sight.

The artisans were given theoretical and practical training in the handling of dyes, mixing up of colours and grouping of colours. Practical demonstrations were conducted with best suited colours in the improved method with the assistance of improved tools and equipments. The scientific treatment given to the leaves has

Manufacture of different utility as well as fancy articles from palm-leaf did not develop to meet the changing fashion and taste of the public even though the industry was carried on for a long time in various parts of the State. By the introduction of improved tools and equipments to simplify the methods and to ensure better quality of the goods, innumerable attractive novel designs so far not seen in the market were also manufactured and brought to the market and they are in great demand at present.

FIG. III, No. 4
DYE-BATH.

considerably enhanced the beauty and attraction. By getting the articles painted with Oriental and natural scenarios in oil paints and colours gave a new fillip to the industry.

5. MARKETING.

The absence of novel designs suiting the taste of the public, the improper methods of sizing and dyeing the formation of fungus on the finished products and the absence of standard and quality articles were the causes for the slackening of the local and foreign markets.

The industry has now been developed to an appreciable extent and it is evident that there is a very great demand for the fancy and utility articles. The articles are being sold through the Departmental Sales Emporiums started in the various places in the State. Adequate facilities are also given to promote export.

The artisans engaged in the industry are given free technical and financial assistance. More than thousand families have considerably improved their living standards. The earning capacity of an artisan has increased by 70 per cent more after the improvements were effected.

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Engineering Advances in Britain

By Mr. CHARLES A. F. AUSTEN

Draglines which can be quickly dismantled, transported and re-erected; a new hovercraft ready for trials; an oil-drilling platform on 9,000-miles voyage; electric furnace provides big economies in pottery making; ropes replace rigid frames in new conveyor; automatic dies programming technique; a propjet branch-airliner on world tests; a new television camera works from sound, not light; and new uses for nylon in industry.

Quick dismantling widens use of giant dragline.

Combination of a welded and bolted construction in a new design of walking dragline has made possible quick dismantling and ease of transportation with comparatively easy re-erection on alternative sites. The first of the new machines is being used on opencast coal mining at Heddon-on-the-Wall, Northumberland, England. The second of these machines, recently completed by Ransomes and Rapier Ltd., carries a seven-cubic yard bucket on a 140-foot boom or a five-cubic yard bucket on a 180-foot boom. It has a working weight of 380 tons and is capable of cutting to a depth of 125 feet.

Under normal conditions with readily handled material, a cycle of dragging and hoisting the bucket, slewing through 90°, discharging and return should be completed in 50 seconds. Eccentrics force rectangular walking shoes (30 feet long by 5 feet 6 inches wide), into contact with the ground, tilt the machine on its base, and slide it along in a series of four-foot steps in any desired direction.

In the application of dragline equipment for mining of opencast coal, iron ore or

I.C.J.—2

clay, however, ease of dismantling, transfer and re-erection is also a vital factor and a combination of welded and bolted construction was found most suited to meet these requirements. Twelve major welding runs totalling 150 feet are necessary in assembling the main units of the dragline structure. Seven major welded assemblies form the main base and superstructure elements, the whole being of unit construction. To minimise site welding the main construction was, where possible, carried out at the Ipswich Works. The main base was welded in three parts on manipulators in the workshop.

Each assembly is complete with the machinery, drive and other components ready for quick mechanical or electrical inter-connection. Welding along prepared edges, to complete a rigid structure, is carried out when the main units have been bolted together and the welds are made along adjoining edges of main plate members of the welded units in positions which allow down-hand working. Flame-cutting is used to dismantle the machine and is carried out along the welds. The spacing is designed so that other structural members are clear, necessitating only a minimum of "making good" by welding.

Trials for new Hovercraft.

Sponsored by Britain's National Research Development Corporation, a revolutionary type of aircraft will soon start its first tethered trials. The new machine has been named the Hovercraft and is neither winged aircraft, a ship nor a motor vehicle. It is actually an entirely new means of transport which will be almost frictionless.

Shaped like a flying saucer, the Hovercraft is being built by Saunders-Roe, Ltd., at Cowes, for Hovecraft Development, Ltd., of London. The prototype machine is 30 feet long and 24 feet wide and is powered by an Alvis Leonides 450 h.p. engine which drives a ductless fan to provide the supply of air for lift and propulsion.

This prototype will carry a crew of two, but it is expected that the first Hovercraft to go into service will be big enough to act as a cross-channel passenger and vehicle ferry. An important feature of the machine is that it can be loaded and serviced on land, in an area not much bigger than the Hovercraft itself, making airports, harbours and expensive port facilities unnecessary. This means it will be able to operate in many parts of the world at present inaccessible to modern transport.

Hand-carved wooden fan blades, designed and built by the Airscrew Company and Jicwood, Ltd., will provide the lifting force. The fan, powered by an Alvis Leonides Mk 70 engine, provides the air cushion which lifts the Hovercraft off the ground and enables it to "ride" at anything from three to 7 feet above the surface of the water. On reaching the required height some of the air is bled off to propel the craft forward.

Its four blades are constructed from laminations of aërograde mahogany, glued with waterproof synthetic resin and covered with a special plastic. The blade's leading edges are protected by a metal sheath. Accurate balance of the impeller was obtained by control of the shaped dimensions of the blades within the drawing tolerances. No artificial means of balance was used.

There are also pre-rotational vanes constructed of resinbonded thick Birch veneers, with grain direction arranged to give the optimum strength characteristics,

The vanes are built into a rigid central blanking which carries the nose faring. The pre-rotational vanes and the blanking assembly is dowelled and bonded at the blade tips to a section of ducting also made of wood. The duct is double-skinned of Birch ply and mounted on plywood rings.

Oil-drilling platform on 9,000 miles voyage.

The first mobile oil-drilling platform to be built in the United Kingdom, the Orient Explorer, is on its way to British Borneo. Built at Southampton by Steel Structures, Ltd., an associate of the John Howard Group of engineering companies, it is fitted with a helicopter landing stage and has been constructed to withstand a wind force of 100 miles per hour. The Orient Explorer is being towed, via Suez, a distance of 9,200 miles to drill for oil into the bed of the South China Sea.

This platform, which contains 3,000 tons of steel and cost nearly £1,000,000, will be used by the Brunei Shell Petroleum Company for exploration drilling in high seas areas up to approximately 40 miles off the west coast of British Borneo.

The platform is completely self-contained, with air-conditioned living accommodation for 56 men, who will be ferried to and from the mainland of Borneo by helicopter. Food supplies and light freight will also be conveyed to the platform by helicopter.

The platform is fitted with four retractable legs, 225 feet in length and 10 feet in diameter. When the appropriate drilling site is reached, these legs will be lowered until they reach the bottom of the sea; at this point a powerful hydraulic mechanism is engaged, which literally causes the entire platform to "climb up on its own legs" into a position where it is quite clear of any lifting action from the waves. When drilling is finished, the platform is lowered into the sea, the legs are raised and it can be towed to another location.

Electric furnace provides big economies.

Originally designed to reduce the pollution of the atmosphere, which seems inherent with pottery kilns fired with slack coal, an electric furnace has proved so successful in its designer's pottery that it has now been developed to meet the requirements of all types of pottery makers. With the use of electricity, all smoke pollution is obviated, and it has been found that the new kilns have many other advantages. They practically eliminate all risk of damage or breakages, and also greatly speed up the time needed for firing pottery ware.

Made by Shelley Electric Furnaces, Ltd., the "Top Hat" kiln gets its name from the fact that the kiln is simply a base with an upturned box that is lowered on to it. This box is made of aluminium sheeting lined with asbestos slabs and insulation bricks. The heating elements are fitted to the bricks so that when the "Top Hat" is lowered over the loads of china earthenware or porcelain, they are directly exposed to the heat.

Each of these kilns takes a day to fire and a day to cool, which compare very favourably indeed with the old-type smoke-producing kilns which called for a cycle of 10 days—three for preparation, three for firing, three for cooling and one for emptying. Another great advantage is that by bringing the oven to the pottery, all danger of damage is obviated.

Each "Top Hat" Kiln is supplied with two bases, so that while the load on one base is being fired, the other can be loaded. These kilns can be made in a variety of sizes—to meet the exact needs of a pottery maker, and they have even been made so that they can fire four big electrical insulators, each 12 feet high, in one load.

I.C.J.—3

Ropes replace rigid frames in new conveyor.

A new design of conveyor, in which wire ropes replace rigid side frames, is now being produced in England. Chainlinked troughing idlers clamped at intervals between the parallel wire ropes provide a resilient support to the loaded belt and give a carrying capacity up to 20 per cent, greater than that of conventional rigid-framed conveyors. Because of the troughing action of the idlers, spillage is almost eliminated and this flexible method of suspension also considerably reduces impact damage to the belt as it passes over the idlers, cutting down belt wear and giving longer idler life.

Known as the Distington-Goodman resilient ropebelt conveyor, and made by Distington Engineering Company, Ltd., first deliveries of the structure have already been made to the National Coal Board. Although primarily designed for colliery use, it is readily adaptable to surface applications, such as quarries, where an economical and high-capacity conveying system is in demand.

Weighing only one-third of conventional conveyor line material, the ropebelt conveyor can be assembled or dismantled in a fraction of the normal time as the main stands, at which the ropes are tensioned and anchored, are spaced from 150 to 300 feet apart, depending on the material to be carried. With conventional structure, stands must be lined up correctly at 9 feet intervals, whereas ropebelt structure is lined up at each anchor point. The equipment can be operated with any existing drive and tail pulley and can be linked to any other type of conveyor structure.

Automatic feeding device for 250-ton press.

In a new production line recently put into operation at the Ford Motor Company, Ltd., Dagenham, flat steel bars 45 to 60 feet long—40 such strips weigh approximately four tons—are transferred by crane direct from the rolling mill in stacks 20 inches high, and automatically loaded one by one into a 250-ton punching and cropping press. The press, supplied by Cowlshaw, Walker and Company, Ltd., is provided with adjustable tools for cutting and punching slightly different sections of bar to produce lengths adjustable between 5 inches and 5 feet. The tools have twin tracks so that two stocks of bars may be fed together.

The loading device consists of a pair of motor-operated screw-jacks, some 3 feet back from the leading edge of the stacks, which independently lift the whole front section of each stack up to a fixed height, where the top bar lies between gripper jaws.

Each lift is started by push-button from the controller's panel, but switches itself off automatically when the correct height is reached. The controller then closes the gripper jaws by push-button, and at the same time they move forward to introduce the free end of the top bar between powered rollers. The grippers are then released and the powered rollers carry the bar over some 8 feet of tool change space and through the 5 feet of press tool equipment in the press.

As soon as the leading edge appears beyond the cropping tools, the controller releases the roll feed and the press is operated once to crop the rough bar-end square. At this stage an automatic twin gripper feed mechanism comes into operation; the gripper jaws automatically advancing to seize the bar just inside the press tools and pull it to a fixed stop which measures off the length to be cut. When

the stop is reached, the press is automatically, tripped to crop off this length and the bar falls away into a bin. The grippers then return automatically to repeat the operation, which carries on until the whole bar length has been used up, when the loading mechanism is again activated to introduce the next bar.

The use of long bars straight from the rolling mill eliminates the cost of intermediate cropping, and a number of manual handling operations. The automatic gripper feed gives high rate of production with no risk to the controller, who is situated at the side of the machine out of reach of the tools.

To adjust for different cut bar lengths the stop on the gripper feed mechanism may be moved by slackening two tee bolts and retightening. No other adjustments are necessary on the feed mechanism. The bar loading mechanism will handle the whole range of bar sections and lengths without adjustment. The jaw mechanism at the loading end is arranged on a swivelling bridge so that it may be manually swung out of the way for loading a new stack of bars by the crane. No tools are required for this operation.

The loading and automatic feeding mechanism was designed and manufactured by the Hymatic Engineering Company, Ltd., and the electrical control equipment linking the press with the feeding mechanisms was evolved jointly by Hymatic and the press makers, and manufactured by Square D Ltd., of London.

New automatic die programming technique.

New programming methods now makes it possible to produce first-class dies on milling machines, direct from the drawing, without the use of an external computer. Special mathematical techniques have been devised

to provide continuity in "blending" between the co-ordinates shown on the normal blueprint and produce fully three-dimensional work pieces. Punched tape feeds instructions into what is in effect a built-in computer which controls the mill.

This system—evolved by engineers at the laboratories of E.M.I. Electronics, Ltd., gives, it is claimed, several outstanding advantages over the conventional method of diesinking from mahogany or metal models. For a typical medium-sized product, the tape can be programmed in about half the time required to make a wooden prototype. As girl programmers can be employed instead of skilled model-makers, the cost per hour is also greatly reduced. It is found in practice that the machining time too is considerably less than by normal methods.

The new system ensures a consistent accuracy of .002 inch—much greater than could be achieved by the use of wooden models made to an accuracy of $\pm 1/64$ inch and subject to subsequent swelling or shrinkage.

Forging, casting and plastic moulding dies can all be produced on machines equipped with the system. Turbine blades, car rear lights and telephones are just three examples of the type of articles for which dies are now being produced more efficiently. Most surprising of all, perhaps, is the fact that an electronically controlled vertical milling machine costs very little more than a conventional copying diesinker of the same size.

Propjet Branch Airliner on World Tests.

Recently seen in India and a number of other Asian countries is the world's newest project branchliner, the Handley Page Dart Herald. It is on an extensive demonstration tour, the first of several to various parts

of the world. Officials of many airlines and air forces in Europe and Asia anxious to equip themselves with the most modern aircraft will be able to see it and gain a first-hand impression of its flying and load-carrying abilities in what may be called typical Herald century.

Especially intended for the local-traffic conditions to be found in many other parts of the world, the Dart Herald, which is made by Handley Page Limited, can carry up to 47 passengers, over five tons of cargo or combinations of the two. Its fuselage is divided into cabin and freight holds whose capacities are varied at will.

As a fast pressurised airliner—powered by Rolls-Royce Dart propjet engines—it can operate from small airstrips and serve communities off the main air routes and in unhelpful terrain. It is also an excellent aircraft for rapid inter-city communication. In its military role as troop transport and supply aircraft the Dart Herald is ideal for tactical support and communications work.

New Television camera works from sound, not light.

A television camera which works from sound instead of light and can visualise the internal structure of engineering components and materials and parts of the human body, was recently demonstrated in London. It can also be used for seeing under water. The new instrument, which may become of considerable use to engineering, and to medicine, was demonstrated by its inventor, Dr. C. N. Smyth, of University College Hospital Medical School, London.

Sound waves which carry speech and noises through air or water are in many ways similar to light waves or rays. They can be focussed with lenses, and images of objects exposed to noise can be formed and reproduced at a distance. The wave-lengths

of audible sounds are too great to make these techniques useful, but for ultra-sound of frequency 1-20 millions of cycles per second the wavelengths in water or oil are only fractions of a millimetre and sound lenses 10 centimetres across are very efficient.

This ultra-sound camera differs from an ordinary television camera in that the light-sensitive (photo-electric) image-receiving-surface is replaced by a sound-sensitive (piezo-electric) image-receiving-surface. This is simply a bare slice of crystalline quartz which under the impact of sound develops on each point of its surface, a voltage proportional to the ultra-sound intensity. The value of this voltage is detected, point by point, by a scanning electron beam, and after amplification controls the brightness of a television receiver to produce a visible image of the invisible internal structure under examination.

The demonstrations of the new camera included the examination of objects immersed in a tank of water. Internal flaws in blocks of aluminium revealed their shape and size clearly. Electroplating that was poorly adherent to the base metal showed as dark patches.

New uses for Nylon in Industry.

Recent development in nylon overalls and protective clothing have just been made known. Following the widespread success of four-ounce plain weave continuous filament nylon fabric, introduced by British Nylon Spinners Limited, new and promis-

ing nylon fabrics are beginning to appear, including garments made from lightweight proofed nylon fabrics. Proofed nylon is claimed to have many advantages for protective clothing. It is tremendously tough and durable and has an amazingly high tear strength but is light in weight so that made-up garments are relatively easy and comfortable to wear.

The scope of nylon for this type of clothing has been greatly increased by the recent introduction of 70 and 140 denier high tenacity yarns. Hitherto the finest high tenacity nylon has been 210 denier; the finer yarns made it possible to produce proofed cloths which are even lighter in weight.

Nylon industrial gloves, already widely used for product protection—a growing need in modern industry—are being adopted more extensively for wearer protection. They have an exceedingly long life as a result of nylon's resistance to abrasion. Many are thinner and lighter in weight as well as tougher so that they are easier to wear; the stability of nylon makes it possible to use knitted fabrics more extensively and thus to improve design, fit and comfort.

Another new all-nylon glove is knitted from spun nylon instead of being wrought from nylon fabric. This is excellent for outdoor workers since it provides good protection against cold as well as against rough or sharp articles.

New ideas in gloves designed for product protection include an ultra-light weight style made from polyurethane-proofed nylon, designed for use by workers handling articles which are excessively sensitive to finger marking or corrosion by sweat such as transistors and cathode ray tubes.

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A UNIT OF THE SMALL SCALE INDUSTRIES
GOVERNMENT OF MADRAS

Development and Growth of Small Scale Industries

By Sri R. VENKATARAMAN, Minister for Industries, Government of Madras

The Indian Industrial Economy has unfortunately developed at opposite ends; large scale industries using modern machines and adopting improved techniques of manufacture and management as in foreign countries and Cottage Industries from the past by hereditary craftsmen, with outdated equipment, limitations to the improvement of work flow and inefficient, but firmly entrenched habits of procedure. The interests of Small Scale Industries, which come under the middle group were not considered till recently, although they represent the evolution to large industries, creating capital and trained skill. The experience of numerous Small Industries growing during the War for producing certain essential articles and providing employment to a large number of workers was proof positive, that given sufficient encouragement, it would be possible to place the industry on a stable basis. For this purpose, the Union Government invited an International Planning Team of Experts, under the aegis of the Ford Foundation to visit important Industrial Centres in the country, study the local conditions and suggest suitable measures. The team made certain very valuable suggestions in their report published in March 1954.

In pursuance of their recommendations for the intensive development of Small Scale Industries, a Development Commissioner was appointed by the Government of

India in September 1954, and an All India Small Scale Industries Board was constituted. Thereafter, though constitutionally the subject of Small Scale Industries falls within the purview of the State Governments, the Union Government have taken an important role in the following directions:—

(i) In co-ordinating programmes and laying down a pattern of development on certain approved lines through the Small Scale Industries Board.

(ii) Financial contributions to the State Government for implementation of their Schemes according to the pattern.

As distinguished from the Village Industries, Handicrafts, etc., "Small Scale Industries" are bigger concerns, working usually on a Small Factory basis and catering to a much wider market. In a sense, they can be described as a large industry working on a small scale and they are characterised by the use of power and machines in their manufacturing purposes and the very large variety of consumer goods they produce. Given proper encouragement, a higher rate of productivity, implying greater efficiency in the use of existing resources could be achieved through the development of Small Scale Industries, which is very essential for the maintenance of our living standards, in an increasingly competitive economy.

The articles manufactured by Small Scale Industry can broadly come under two classifications :—

1. A large range of consumer items, i.e., Bicycles, Agricultural Implements, Sewing Machines, Domestic Electrical Appliances, Builders' Hardware, Cutlery and Domestic Hardware, Furniture, Wood Work, Footwear, and Leather Goods, Ceramics, Glassware, Sports Goods, Handtools, Surgical and Mathematical Instruments, Mechanical Toys, Matches, etc.

2. As ancillaries to large scale industries in manufacturing components and accessories.

"Small Scale Industry" has, for the first time in the Indian history, become the subject of Government aid of the first order and has, before it, a unique chance of filling up the gap, opened up by modern large scale industrialisation, viz., the gap between the country's immediate demands for trained man-power and light industrial equipment and the insufficiently developed resources of the country in either field. Realising, therefore, the imperative need for filling up the said gap by proper assessment and use of all available resources the Madras Government have formulated a number of schemes for the development of Small Scale Industries during the Second Plan Period, in conformity with the programme drawn up by the Union Government.

The principal needs of Small Scale Industries are imparting training and technical advice regarding the adoption of improved tools, machines and new techniques, supply of raw materials and power at reasonable rates, supply of adequate finance on fair terms, facilities for importing or purchasing new machines, providing factory space (Industrial Estates) in order to conserve the capital of small entrepreneurs for utilisation towards working expenditure, providing servicing facilities involving the use of costly

machines and assistance in the marketing of their products. An increasing awareness on the part of the public for improving or expanding existing industries and starting new ones is now perceptible. Consistent with this growing need and as a first step to encourage the development of industries in the private enterprise, the Madras State Aid to Industries Act and Rules have been so amended as to enable the speedy grant of loans to private industries, new entrepreneurs and industrial co-operatives on a more liberalised scale and at very low rates of interest.

With a view to solve the initial difficulties confronting a small entrepreneur to set up a small scale industry, which include the long delays, expenses and troubles involved in acquiring a suitable site, in obtaining approval for plans, etc., permission and licences from the municipal authorities and the factories department, in securing building materials and constructing the factory building in conformity with the Municipal Laws and the Factory Rules and finally in getting water supply and electrical connection, etc., the Government have established near important towns, what are known as, "Industrial Estates". These are developed and planned sites with properly designed and ready built factories of different sizes, conforming to Municipal and Factory Laws, available for moderate rent to Small Scale Industries, with complete range of industrial services.

Among the principal types of schemes included in the Plan of the Madras State are those for the establishment of Industrial Estates and Colonies, loans to industries on easy terms and development schemes of a specific nature. Though a good beginning has been made and satisfactory results achieved during the last few years, only limited areas and industries have been so far covered due to limitations of technicians and other facilities. Now that we are drawing up the programme for the Third Five-Year

Plan and as a result of spade work done, small entrepreneurs are coming forward in larger numbers to start industries; all of us are constantly searching for new ideas, new schemes, latest machines and modern manufacturing techniques. The U.S. Small Industries Exhibition held in Madras under the aegis of the United States Government was a boon to all of us and has certainly met the long felt need of this region. It is my

hope that all small entrepreneurs and government officials connected with the development of small Industries will study it in detail and derive the maximum benefit from the exhibition wherein the long experience of an advanced country has been brought to our very doors.

—Reprinted from the Small Industries Exhibition Supplement.

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MADRAS-

U. S. Small Industries

EXHIBITION IN MADRAS CITY

The small Industries Exhibition, organised by the United States of America, was opened on September 1 on the Island Grounds by Sri Bishnuram Medhi, Governor.

Mr. Winthrop G. Brown, *Charge de Affairs* of the United States of America, who had come down specially from Delhi for the occasion, requested the Governor to open the exhibition.

The Exhibition, sponsored by the Office of International Trade Fairs under the U.S. Department of Commerce, was conceived as a means of giving India the benefit of American experience in small-scale industries.

Major parts of the exhibition were housed in the unusually shaped 'bugle' geodesic domes. The centre of attraction is a huge central industrial dome where machines suitable for small industries were on show. In the centre of the dome was a replica of the Statue of Liberty.

Solar Plateau.

Also on view were a 'Solar plateau' where the latest developments in uses of

solar energy were unfolded, and the Flood pavilion where the American representatives of Dairy, Wheat and Soyabean Association have displayed their exhibits which include, among others, a milk recombining machine, an ice-cream making machine, and a doughnut machine.

The use of machinery in the making of pottery, ceramics and gem-cutting was demonstrated in another pavilion. Among the other features of the exhibition were lift crane operation, a steam boiler, and a heavy equipment truck. There was also an open air educational theatre operated by the U.S.I.S. Messrs. Brooke Bond opened a tea stall in the exhibition.

Accompanying the exhibition were missions from the U.S. Department of Agriculture, Department of Labour, and the Trade Mission of the U.S. Department of Commerce.

All three missions were present at the exhibition each day to discuss their specialities.

Benefits of Small Industry

HANDICRAFT PRODUCTS.

Need for rigid quality control.

The need for rigid quality control of handicraft products was stressed by Mr. S. A. Teckchandani, Managing Director of the Indian Handicrafts Development Corporation.

He was addressing a meeting of business associates of the Corporation, who were engaged in the export of Indian handicrafts. Mrs. Kitty Shiva Rao, Vice-Chairman of the All-India Handicrafts Board, presided.

Mr. Teckchandani announced that the Corporation had applied for registration of its seal with the trade mark register, and the proposed seal would be affixed on the merchandise approved by the Corporation. He appealed to businessmen to co-operate with the Corporation in making the pre-shipment inspection service provided by the Corporation a success.

The Corporation, he said, had already established its own trade centres at Frankfurt, and a Show Room in London. It was proposed to establish a Trade Centre at New York.

GOVERNOR'S ANALYSIS

The Governor of Madras, Mr. Bishnuram Medhi emphasised the vital role small-scale industries and enterprises played in building up a broad base for a strong and dynamic economy in India.

The Governor, who was opening the United States Small Industries Exhibition at the Island Grounds in the presence of a

large and distinguished gathering, commended the service rendered by the U.S. Government in showing the exhibition in important cities in India, and observed that it would give a first-hand idea of how small industries were run efficiently in America to supplement big industrial units, to provide more opportunities of employment, and to produce consumer goods.

Among those present was Mr. R. Venkataraman, Minister for Industries.

After thanking M. Brown for coming down to Madras to participate in the function Mr. Simons said many Indian firms had given great assistance in getting up the exhibition. The Integral Coach Factory had provided 200 Indian technicians to run the machines at the exhibition. He also thanked the members of the various American missions who were helping them in the exhibition, and who were attempting to bring about greater collaboration between Indian and American businessmen.

Vital aspect of U.S. economy.

Mr. Winthrop G. Brown said he was happy to be in Madras so famous for its hospitality again. Madras was the third city in which the Exhibition was shown. It had been shown in Delhi and Calcutta, and it had been shown so far only in India. The Exhibition was representative of the equipment and facilities used by small business establishments in America, and it tried to show something of an important side of America's economy that was not widely known by people in other countries, namely, the role of small business.

In America today the small industries, that is business employing fewer than 50 people, actually employed more people than did the big industries. There were more than 4,000,000 small business firms in the U.S. They employed roughly one-third of all workers engaged in manufacturing, one-half of all those in wholesale and retail trade, and three-quarters of those engaged in the service industries. Sixty-five per cent of all workers in the U.S. were employed in small concerns which were a mainstay for the industrial giants as well as for small consumers.

The employees of small industry in turn were supporters of big industry, and almost all the small companies were owned by individuals or partners. More than a third of the patents issued by the U.S. Patents Office between 1921 and 1948 went to small and medium enterprises.

Trade mission, too.

Mr. Winthrop G. Brown added that fears that the machine would displace the skilled worker had proved groundless in the U.S. Labour statistics testified that the proportion of craftsmen in the labour force was increasing despite the great advance in mass production techniques.

Included in the exhibition was a section on American labour and agriculture, two vital parts of America's economic life. American farming, if they were to use the definition of 50 employees, was certainly almost all small business. There were more than 65 lakhs farms in the U.S. the vast majority of them "one-man" operations or more accurately family holdings. The products of America's farms had a total annual value of more than Rs. 14,000 crores.

In conclusion, Mr. Brown said with the exhibition they had brought a team of top-grade American businessmen as a trade

mission, and these highly trained experts would be of considerable assistance to their Indian counterparts.

Keynote.

The keynote of the exhibition was Gandhiji's call: "For the welfare of all." This struck a responsive chord in American hearts. "For what we are proud of in the success of our economic system is not so much the overall prosperity which it has produced as the degree to which that prosperity is spread through every segment of our people."

The Governor said they in Madras were thankful to the American Government for giving an opportunity to the citizens here to understand and appreciate the vast potentialities of small industries, and also the American know-how at work.

In a vast country like India, with agriculture as the base of her economy, small-scale and cottage industries were most important. The idea behind small industry was that it would lead to a decentralisation of production, and avoid social evils which were attributed to concentration of large enterprises in a few cities and towns. And it would prevent migration to cities and towns of a large number of people living in rural areas. They provided wider employment opportunities and also offered a method of ensuring a more equitable distribution of the national income, and facilitated an effective mobilisation of resources of capital and skill which might otherwise remain unutilised.

As Mr. Brown had said in America, along with the major producers of capital goods, small industry flourished very well, "and it is heartening to hear that there are 4,000,000 small business firms in the U.S., employing more than what the big industries do."

Small Industries Development

Rs. 600 CRORES MAY BE SPENT, IN THIRD PLAN.

But Centre will give fewer subsidies and grants.

The Union Minister Mr. Manubhai Shah said over Rs. 600 crores was proposed to be provided for the development of small-scale cottage and medium-scale industries during the Third Plan, inaugurating the All-Mysore State Industrialists Conference. He gave a "broad vista" of future development in this sector, and said the Third Plan would be a self-reliant industrial development plan in which giving of grants and subsidies would be much less than at present.

Assistance by way of loans and technical guidance would, however, be pushed up to a great extent, so that the industries could prosper on right lines. It was the intention of the Government to see that in every respect—hire purchase, financial and technical assistance, training and marketing—the functions of the present Central functional Boards were decentralised so as to strengthen the very base of small-scale industries.

Mr. Shah said the six Central Boards would be made more autonomous, and they, in turn, could delegate the powers to the State Boards as no useful purpose would be served by continuing to centralise everything from Delhi. It was of course essential to have such centralisation during the initial period, and that was the reason why the Union Government assumed all powers purely on a temporary basis.

I.C.J.—5

The time had now come for decentralisation, and that could be taken up during the next Plan period. Simultaneously, it was essential for all State units to shoulder that responsibility. He hoped that by the Third Plan period all State Governments would have constituted State Small-Scale Industries Corporation.

Mr. Shah said that what a small-scale industrialist at present wanted was financial assistance in time. He pointed out that it was not possible to continue subsidies and grants as at present, causing undue burden on the taxpayer. So, it was essential to have proper banking arrangements to enable industrialists to secure loans.

It was the intention of the Centre that by the Third Plan period all scheduled banks should be asked to undertake this responsibility also. It would then be possible for small-scale industrialists to secure assistance from over 9,000 branches of various banks. In that respect it was necessary that industrialists established their credit worthiness. The Government would try to guarantee credit for marginal type of industries, and a scheme in this direction was being worked out.

The Government had decided, he said, to establish one full-fledged Service Institute for small-scale industries in every State. During the next Plan period, these Institutes would be very much enlarged to meet requirements. Over 1,000 extension centres to assist industrialists would also be started, so that a place with a population of over 5,000 would have one extension unit. At present there were only 149 extension centres.

Training of Artisans.

During the next Plan, the Minister said, training of artisans would be very much enlarged, so that low productivity and high cost of production, the bane of the country at present, would vanish.

Mr. Shah asked industrialists to improve the standard and quality of their products, so that the goods would have a ready market.

Mr. B. D. Jatti, Chief Minister who presided, said the Government would shortly constitute a Corporation to develop small-scale industries. He was sure the Corporation would deal with the requirements of small-scale industrialists in all respects.

He told them that the climate created by import restrictions now was opportune for small-scale industrialists to flourish. He was sure they would utilise the opportunity by trying to stabilise their techniques and products to attract consumers.

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Small Scale Manufacture of Salt

In the Press Note of 23rd April, 1948, issued by the Government of India in the late Ministry of Industry and Supply it was announced that individuals or groups could freely produce salt in any land in which they had lawful access for the purpose provided the total area of land covered by the Salt works set up by any individual or group was not more than 10 acres. It was also announced that no licence would be needed for such small scale manufacture of salt and that the salt so

produced would not be subject to any restrictions by way of storage, transport and sale. As doubts have been expressed in certain quarters in regard to the scope or extent of the applicability of the above-mentioned concessions, it is hereby clarified that those concessions are intended to apply only to salt works located elsewhere than within the precincts of a 'salt factory' as defined in section 2 (j) of the Central Excises and Salt Act, 1944 and notified by the Salt Commissioner as a salt factory.

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Small Scale Industries

By Sri T. SOMASUNDARAM, B.A., B.E.

பொருளாதார நிலைமையை துரிதமாக சம சீராக அபிவிருத்தி செய்யவேண்டும். இதுவே இந்தியா சுருந்திரம் பெற்று முதல் அரசாங்க கொள்கையாகவும், தேசிய முயற்சியின் பிரதான குறிக்கோளாகவும் இருந்து வருகிறது. வருங்காலத்தில் துரிதமான முன்னேற்றத்திற்கு வசதி அளிக்கும் ரீதியில் பொருளாதார அஸ்தி வாரத்தைப் பலப்படுத்துவதும் சமூக அமைப்பில் மாறுதல்களைத் தொடங்குவதும் முதலாவது ஐந்தாண்டு திட்டத்தின் குறிக்கோள்களாக இருந்து வந்தன. முதல் திட்டக் காலத்தில் தொடங்கப் பெற்ற காரியங்களில் முன்னேற்றமும் உற்பத்தி, முதலீடு, வேலை வசதி ஆகியவைகளைக் கணிசமாக அதிகரிப்பதற்கு வழி செய்யவும் இப்பண்டாவது திட்டம் வருகக்கூடுள்ளது. அதோடு பொருளாதாரத் துறை அதிக விறுவிறுப்பும் முற்போக்கும் பெறுவதற்கு அவசியமான அமைப்பு முறை மாறுதல்களை அத்திட்டம் வேகமாக ஏற்படுத்த முற்பட்டுள்ளது. எல்லாவற்றிற்கும் மேலாக இந்தத் திட்ட காலத்தில் வேலையில்லாப் பிரச்னையை முற்ற விடக்கூடாது என்பதே பிரதான நோக்கம்.

வேலையளிப்பு சம்பந்தப்பட்டவரை மூன்று பிரச்னைகளைச் சமாளிக்க வேண்டியிருக்கிறது.

1. நகர கிராமாந்திரப் பகுதிகளில் ஏற்கனவே வேலையில்லாதவர்கள் இருக்கிறார்கள்.

2. ஜனத்தொகை அதிகரிப்பால் வருஷத்திற்கு இரண்டு லட்சம் வீதம் வேலை நாடும் தொகை அதிகரிக்கிறது.

3. விவசாயத்திலும், கிராமாந்திரப் பகுதிகளிலுள்ள குடிசைத் தொழில்களிலும் குறைந்தே வேலை பார்ப்பவர்கள் இருக்கிறார்கள். அவர்களுக்கு அதிக நேர வேலை கிடைக்க வசதி செய்ய வேண்டும். இவை தவிர வேலையில்லாப் பிரச்னையில் பிரதேச வாரியான தன்மைகளையும் கவனிக்கவேண்டும்.

சிறு தொழில்களில் முக்கியத்துவம் வேலையற்றவர்களுக்கு வேலை அளிப்பது சம்பந்தமாகவும், 'Consumer goods' என்று சொல்லும் அனாடத் தேவையுள்ள பொருள்களை உற்பத்தி செய்து நாளுக்கு நாள் வளரும் தேவையை

பூர்த்தி செய்வது சம்பந்தமாகவும் மத்திய அரசாங்கத்தின் 1948-ம் வருடத்திய தொழிற் கொள்கையின் தீர்மானப்படி வலியுறுத்தப் பட்டது.

எவ்வித உதவிகள் சிறு தொழில்களின் வளர்ச்சிக்கு அளிக்கப்படுகிறது என்பதைக் கூறுவதற்கு முன்னால் சிறு தொழில்கள் என்றால் என்ன என்பதைச் சொல்லிவிடுவது நலம். குறிப்பிட்ட தொழிலாளர்களையும் குறைந்த மூலதனத்தையும் கொண்டும் நடத்தப்படுவதைப் பொதுவாகச் சிறு தொழில் எனக் கொள்ளலாம். இருந்தாலும் அரசாங்கம் உதவி அளிப்பதற்காக சிறு தொழில் என்றால் என்ன என்பதை வரையறுத்துக் கூறியிருக்கிறார்கள். மின்சார உபயோகமும், ஒரு ஷிப்டுக்கு ஐம்பது தொழிலாளர்களையும் அல்லது மின்சார உபயோகம் இல்லாமல் ஒரு ஷிப்டுக்கு நூறு தொழிலாளர்களையும் கொண்டு ஐந்து இலட்சத்திற்கு குறைவான மூலதனத்தோடு நடத்தப்படும் தொழிற்சாலைகளை சிறு தொழில் எனக் கருதுகிறார்கள்.

சிறு தொழில் ரீதியில் ஒரு தொழில் ஆரம்பிப்பது முதலில் லகுவாகத் தோன்றினாலும் ஒரு தொழில் அதிபர் அனேக இடையூறுகளுக்கு உள்ளாக நேரிடுகிறது. மூலதனம் இல்லாமை, தேவையான கருவிகள், இயந்திரங்கள் கிடைப்பதில் கஷ்டம், கையாளுவதில் திறமையின்மை, தொழிற்சாலைக்குப் போதிய கட்டடம் இன்மை, மூலப் பொருள்கள் கிடைப்பதில் கஷ்டம், உற்பத்திப் பொருள்களை விற்பதற்கு மார்க்கட் தேடுவது முதலியவை ஆகும்.

மேலே கூறியுள்ள இடையூறுகளை கடந்து செல்ல தொழில் அதிபர்களுக்கு உதவ அனேக திட்டங்களை அரசாங்கம் உருவாக்கி இருக்கிறது.

உற்பத்தியில் ஆலோசனையும் உதவியும்.

பொதுவாக சிறு தொழில் அதிபர்கள் தகுதி வாய்ந்த நிபுணர்களையும், தொழில் ஆலோசகர்களையும் அமர்த்துவதற்கு வசதியற்றவர்களாய் இருக்கிறார்கள். ஆகவே தொழில் இலாகா அனேகமாக எல்லா மாவட்டங்களிலும்

இலாகாவின் அமைப்பை விஸ்தரித்து சென்னையிலுள்ள தலைமை அலுவலகத்தின் கீழ் இயங்கி வருகின்றது. எனவே எல்லா தொழில் அதிபர்களும் இவ் அலுவலகத்துடன் நெருங்கிய தொடர்புகொண்டு தமக்கு வேண்டிய உதவியையும் ஆலோசனையையும் உடனடியாகப் பெற முடியும். மாவட்டங்களைப் பொறுத்தவரையில் எல்லா சிறு தொழில் அதிபர்களும் தங்கள் தொழில்களைப் பற்றிய எல்லா விபரங்களையும் கொடுத்துத் தொழில் வர்த்தக உதவி இயக்குநர் அலுவலகத்தில் பதிந்துகொள்கிறார்கள். இதன்படி அவர்களின் தொழில் முன்னேற்றத்தில் குறுக்கீடும் இடையூறுகளுக்கும் உடனடியான பரிசாரம் கிடைப்பதில் தொழில் வர்த்தக இலாகா உதவி புரிகிறது. மேலும், மாநில அரசாங்கத்தின் உதவிகள் அன்னியில் மத்திய அரசாங்கமும் ஒவ்வொரு மாகாணத்திலும் "Small Industries Services Institute" என்று ஒரு ஸ்தாபனத்தை அமைத்து இருக்கிறது. இது தொழில் அதிபர்களுக்குத் தொழிற்சாலையை நிறுவுவதிலும், உற்பத்தி பண்ணுவதிலும், தொழில் நுணுக்க உதவியும் அளிக்கிறது. இந்த ஸ்தாபனம் தொழில் விளத்தர்ப்பு நிலையங்களையும் அமைத்து குறிப்பிட்ட சில தொழில்களில் உற்பத்தியின் விசேஷ அம்சங்களை எடுத்துக் காட்டுகிறது.

தொழிற்சாலைக்கு வேண்டிய இட வசதி.

பொருள் உற்பத்தித் திட்டத்திற்கு அடுத்த படியாக ஒரு தொழில் அதிபரின் தேவை வசதியான தொழிற்சாலைக் கட்டிடமாகும். பெரும்பாலும் எல்லாத் தொழில் அதிபர்களுக்கும் தங்களுக்கென சொந்தத்தில் தொழிற்சாலை கட்டிக்கொள்ள பொருளாதார வசதி இடம் கொடுப்பதில்லை. ஒரு சிலருக்கு வசதி இருந்தாலும் தொழிற்சாலைக்குப் போதுமான காலி இடம் கிடைப்பது, கட்டிட வரைப் படத்தின் அங்கீகாரம் கிடைப்பது, நகராட்சி மன்றம் தொழிற்சாலை இலாகா இவைகளின் அனுமதி கிடைப்பது, தொழிற்சாலைக்கு வேண்டிய தண்ணீர், மின்சக்தி கிடைப்பது போன்றவைகளில் நீண்ட கால தாமதமும் பொருள் விரயமும் ஆகிறது. இக்கஷ்டங்களை நிவர்த்திப்பதற்காக அரசாங்கம் தொழிற் பண்ணைகளை நிறுவ முடிவு செய்தது. இதன் படி நன்கு நிர்மாணிக்கப்பட்ட பல தரத் தொழிற்சாலைக் கட்டிடம், தண்ணீர், மின்சக்தி, ரோடு, பண்டகசாலை உள்பட சகல வசதிகளுடனும் தொழிற் பண்ணைகளில் கட்டப் பட்டிருக்கின்றன. நமது மாநிலத்தைப் பொறுத்த வரையில் முதல் தொழிற் பண்ணை சென்னையை அடுத்துள்ள கிண்டியில் 1953-ம்

வருஷம் ஜனவரி 1-ந்தேதியில் நமது பிரதம மந்திரியால் திறந்து வைக்கப்பட்டது. திறந்து வைத்த சமயத்தில் 52 தொழிற்சாலைகள் இயங்கின. புதுப் புது தொழில்களை ஆரம்பிப்பதில் தொழில் அதிபர்கள் உற்சாகம் காட்டி தொழிற்சாலைக் கட்டிடத் தேவைக்கு அனுதிய தால் மேற்கொண்டு 26 கட்டிடங்கள் உடனடியாகக் கட்டி முடிக்கப் பெற்று 1959-ம் வருஷம் பிப்ரவரி 14-ந் தேதியில் மத்திய தொழில் மந்திரி திரு ஸால் பகதூர் சாஸ்திரி அவர்களால் தொடங்கி வைக்கப்பட்டது. இம்மாத முடிவிற்குள் தொழிற்சாலைகளின் எண்ணிக்கை 97 ஆகும். இவற்றுள் 73 தொழிற்சாலைகள் ஏற்கனவே இயங்கிக்கொண்டிருக்கின்றன. தற்போது 836 நபர்கள் இங்கே வேலை செய்கிறார்கள். இத்தொழிற் பண்ணையின் இவ்வாண்டின் விற்புமுதல் சுமார் ரூ. 60 இலட்சம் ஆகும். இதுவரைவில் ரூ. 150 இலட்சத்திற்கு உயரும். இதன்படி அன்னிய நாட்டுச் செலவாணியில் ரூ. 50 இலட்சம் மிச்சமாகும். இத்தொழிற் பண்ணைக்காக அரசாங்கம் ரூ. 70 இலட்சம் அனுமதி அளித்திருக்கிறது.

மதுரைத் தொழிற் பண்ணையில் 12 தொழிற் சாலைகளும் 3 அரசாங்கத் தொழிற் கூடங்களும் இயங்கி வருகின்றன. இத் தொழிற் பண்ணையும் 1959-ம் வருஷம் ஏப்ரல் 15-ந் தேதி நமது பிரதம மந்திரியால் திறந்து வைக்கப்பெறும் பேறு பெற்றது. இங்கும் தொழிற்சாலைக் கட்டிடத்தின் தேவை மிக அதிகமாகவே, இன்னும் ஆறு கட்டிடங்கள் கட்டப்படுகின்றன. இவைகள் அக்டோபர் 1959-க்குள் முடிவுபெறும். விருதுநகர் தொழிற் பண்ணையில் 15 தொழிற் சாலைகள் கட்டி முடிக்கப்பெற்று தொழில் அதிபர்களுக்கு வழங்கப் பெற்றிருக்கின்றன. இவை போன்று இன்னும் திருச்சி, ஈரோடு, பேட்டை, மார்த்தாண்டம், தஞ்சாவூர் முதலிய இடங்களில் இத்தொழிற் பண்ணைகள் உருவாக்கக்கொண்டிருக்கின்றன. இம்மாநிலத்திலுள்ள எல்லாத் தொழிற் பண்ணைகளும் 1959-60 வருட முடிவிற்குள் இயங்கத் தொடங்கும்.

கடன் வசதிகள்.

தொழிற்சாலை இட வசதிக்கு அடுத்தபடியாக மிக அத்தியாவசியமான தேவை பண வசதியாகும். சில காரணங்களினால் கூட்டுறவு பாங்குகளிலிருந்தும், வேறு பாங்குகளிலிருந்தும், சிறு தொழில் அதிபர்களுக்கு போதிய அளவு பணம் கிடைக்கவில்லை. எனவே நமது மாநில அரசாங்கம் தொழிலதிபர்களுக்கு "சென்னை தொழில் உதவிச் சட்டத்தின் கீழ்" பண வசதி அளிப்பதற்கு முன்வந்திருக்கிறது. இச்சட்டத்தின்

படி ரூபாய் 1,000 வரை தனி நபர்கள் பொறுப்பின் பேரிலும் ரூபாய் 5,000 வரை ஒன்று அல்லது அதற்கு மேற்பட்ட நபர்களின் பொறுப்பின் பேரிலும், ரூபாய் 5,000-க்கு மேல் வீடு, நிலம், இயந்திரம் போன்றவைகளின் பொறுப்பின் பேரிலும் கடன் அளிக்கலாம். நமது மாநிலத்தைப் பொறுத்த வரையில் இச்சட்டம் 1956 மத்தியில் அமலுக்கு வந்தது. அன்றி இருந்து 1959-ம் வருஷம் மார்ச் மாதம் 31-ம் தேதி முடிய ஏறத்தாழ 62 லட்ச ரூபாய் சிறு தொழில் அதிபர்களுக்குக் கடனாக அளிக்கப்பட்டிருக்கிறது. இந்தியா முழுமைக்கும் ஏழுகோடி ரூபாய் ஏப்ரல் 1957 முதல் செப்டம்பர் 1958 முடிய 12,545 சிறு தொழில் அதிபர்களுக்கும், 426 தொழிற் கூட்டுறவு சங்கங்களுக்கும் வெவ்வேறு மாநில அரசாங்கத்தாரால் கடனாக அளிக்கப்பட்டிருக்கிறது. தொழில் வளர்ச்சி காலத்தில் பண வசதியின் தேவையை நிவர்த்தி செய்ய மாநில நிதிக் கூட்டுகள், State Financial Corporation) ஸ்டேட் பாங்க், கமர்ஷியல் பாங்க், தொழில் முதலீட்டுக் குழு (Industrial Investment Corporation) முதலியவைகள் முன்வருவது நலம். சென்னை முதலீட்டுக்கழகம் (Madras Industrial Investment Corporation) 1958 செப்டம்பர் முடிய ரூபாய் 8,17,000 தொழில் அதிபர்களுக்குக் கடனாக அளித்திருக்கிறது.

இந்திய ஸ்டேட் பாங்கும் தொழில் மூல தனத்திற்காக இந்தியா முழுவதிலும் உள்ள தனது 490 கிளைகள் மூலம் உதவி புரிந்து வருகிறது. பெப்ரவரி 1959 வரை 795 நபர்களுக்கு 2.63 கோடி ரூபாய் கடனாக அளித்திருக்கிறது.

சர்க்காரின் பணி நிலையங்களும், உற்பத்தி நிலையங்களும் (Government Production and Training Service Centre) தரமான பொருள்களை உற்பத்தி செய்வதற்கும் உற்பத்தி வேகத்தை அதிகரிப்பதற்கும் நம் மாநில தொழில் துறை பல்வேறு பணி நிலையங்களையும் பயிற்சி நிலையங்களையும், மாதிரி உற்பத்தி நிலையங்களையும் ஆரம்பித்திருக்கிறது. ஒவ்வொரு மாவட்டத்திலும் உள்ள தொழில்துறை இந்நிலையங்கள் மூலம் பயனடையும்படி இவைகள் அமைக்கப்பட்டிருக்கின்றன. உதாரணமாக திண்டுக்கல் பூட்டிற்கும், இரும்புப் பெட்டிக்கும் பல ஆண்டுகளாகப் பெயர் பெற்றிருக்கிறது. எனவே மாநில அரசாங்கம் திண்டுக்கல்லில் பூட்டுத் தொழிலுக்கு ஒரு தொழிற்சாலையை 1957 ஜூலை முதல் நிறுவியிருக்கிறது. இத்தொழிற்சாலை மிகவும் தரம் உயர்ந்த பூட்டுகளை உற்பத்தி பண்ண வேண்டும் என்ற உணர்ச்சியை தொழிலாளர்களிடையே ஏற்படுத்தியிருக்கிறது. இத்தொழிற்

சாலை மூலப் பொருட்களை தொழிலாளர்களுக்கு வழங்கி உதவுவதுடன் சிறு பாகங்களைச் செய்தும் கொடுக்கிறது. தொழிலாளர்களுக்காக ஏற்படுத்தப்பட்ட கூட்டுறவுச் சங்கம் இத்தொழிற்சாலையில் செய்து கொடுத்த சிறு பாகங்களை வைத்து DICO என்னும் பெயருடன் பூட்டுகள் செய்து விற்பனை செய்து வருகிறது. தவிர இந்த சர்க்கார் தொழிற்சாலை புதிய முறையில் "D" Lok என்ற பெயருடன் பூட்டுகளை உற்பத்தி செய்து நாடு முழுவதும் விற்பனை செய்து வருகிறது. அரசாங்க தொழில் நிலையமும் கூட்டுறவுச் சங்கமும் இணைந்து பணிபுரியும் நிலையை முதன்முறையாக திண்டுக்கல்லில் பரீட்சித்து வெற்றி யுடன் நடைபெறுகிறது என்பது குறிப்பிடத்தக்கது.

இவ்வடிப்படையில் திருநெல்வேலி பேட்டையில் ஒரு மாதிரி கொல் தச்சு பட்டரையும், விஞ்ஞான முறையில் மரக்கட்டைகளை பக்குவப்படுத்தும் (Wood Seasoning) நிலையம் ஒன்றும் ஆரம்பிக்கப்பட்டிருக்கிறது. இராஜபாளையத்தில் General Purpose Engineering Work-shop ஒன்றும், மதுரையில் பஞ்சாலை உற்பு நிலையம் ஒன்றும் பழனியில் Hurricane Lantern செய்யும் நிலையம் ஒன்றும், திருச்சியில் விவசாயக் கருவிகள் தயாரிக்கும் நிலையம் ஒன்றும் அமைக்கப்பட்டிருக்கிறது. இம்மாதிரி வேறு பல நிலையங்கள், மன்னார்குடி, கும்பகோணம், கடலூர், விண்ணாமங்கலம், ஆம்பூர், பொள்ளாச்சி, ஈரோடு, கிருஷ்ணகிரி, பல்லாவரம் முதலிய இடங்களில் நிறுவப்பட்டிருக்கிறது. கிண்டி தொழிற் பண்ணையில் அரசாங்கம்

தொழில் நுட்பக் கருவிகள் செய்தல், எலக்ட்ரிக் சாமான்கள் செய்தல், விளையாட்டுச் சாமான்கள் செய்தல், கண்ணாடிச் சாமான்கள் செய்தல், நவீன முறை வார்ப்புத் தொழில் முதலிய பன்னிரண்டு தொழில் நிலையங்களை ஆரம்பித்திருக்கிறது.

இப்பன்னிரு தொழில் நிலையமும், வால்பாக்கம் ரோடு, பெரம்பூர், திருவல்லிக்கேணி, முதலிய இடங்களிலுள்ள தொழில் நிலையங்களும், சென்னையிலுள்ள தொழில் அதிபர்களுக்கு தொழில் நுட்பங்கள் வழங்கி அதிக உற்பத்தியைப் பெருக்குவதற்கும், பொருளாதார முன்னேற்றத்திற்கும், சிறந்த வாய்ப்பை அளிக்கின்றன.

தொழில் கூட்டுறவு சங்கங்கள். சோஷலிச சமுதாய அமைப்பின் சிறப்பை அறிந்து தொழிற் கூட்டுறவுச் சங்கங்கள் தொழிற் துறையால் அமைக்கப்பட்டிருக்கின்றன.

இராமாந்திர சிறு தொழில்களை ஊக்குவிப்பதற்கு தொழில் கூட்டுறவுச் சங்கங்கள் உதவுகின்றன. இவைகளில் வேலை செய்யும் தொழிலாளர்களிடம் கூட்டுறவுச் சங்கத்தின் நிர்வாகப் பொறுப்பும் உற்பத்திப் பொறுப்பும் ஒப்படைக்கப்படுகிறது. தனி நபர்களுக்குக் கொடுக்கப்படும் சலுகைகளைக் காட்டிலும் தொழிற் கூட்டுறவுச் சங்கங்களுக்கு அதிகமாக சலுகைகள் அளிக்கப்படுகின்றன. இக் கூட்டுறவுச் சங்கங்களுக்கு தொழில் நுட்ப வல்லுநர்களும், நிர்வாக அலுவலர்களும் ஓராண்டு முதல் மூன்றாண்டுகள் வரை அரசாங்கச் செலவில் அமர்த்தப்படுகிறார்கள். அவசியமான சந்தர்ப்பங்களில் இச்சங்கங்களுக்கு கட்டிடங்கள் கட்டவும், இயந்திரங்கள் வாங்கவும், மானியம் வழங்கப்படுகிறது. இரண்டரை சத வீத வட்டியில், கடன் வழங்கப்படுகிறது. இவ்வுதவிகள் சங்கம் ஆரம்பித்த ஓராண்டுக்குள்ளேயே இலாபம் தேட வகை செய்கிறது. நம் மாநிலத்தில் தற்போது பாய் கூடை முடைவது முதல் பூட்டு, போல்டு நட்டு, பாத்திரங்கள் செய்வது வரை சுமார் 400 தொழிற் கூட்டுறவுச் சங்கங்கள் இருக்கின்றன.

இவைகளில் முக்கியமானவை—

1. பூட்டுத் தொழிலாளர் கூட்டுறவுச் சங்கம், திண்டுக்கல்—மூலதனம் ரூ. 1,00,250.

2. போல்டு, நட்டு, ஓர்க்ஷாப், ஸ்ரீபெரும் புதூர்—மூலதனம் ரூ. 1,65,600.

3. அருந்ததியார் தோல் கூட்டுறவுச் சங்கம், பெரம்பூர்—மூலதனம் ரூ. 2,32,400.

4. தோல் தொழிலாளர் கூட்டுறவுச் சங்கம், திண்டுக்கல்—ரூ. 1,21,900.

இரண்டாம் ஐந்தாண்டு திட்ட காலத்தில் கிராமத் தொழில்களையும், சிறு தொழில்களையும் அபிவிருத்தி செய்வதற்கு ரூபாய் இரு நூறு கோடி ஒதுக்க வேண்டும் என்று கார்வே கமிட்டி சிபார்சு செய்தது. இத்தொகையில் 55 கோடி ரூபாய் சிறு தொழில்களுக்காக ஒதுக்கப்பட்டிருக்கிறது. இந்தியாவின் சிறு தொழில் வளர்ச்சியில் சென்னை மாநிலமே முன்னணியில் இருக்கிறது. சர்க்கார் அளிக்கும் பண உதவியும் மற்ற தொழில் நுணுக்க உதவியும் தவிர இம் முன்னேற்றத்திற்குக் காரணம் சிறு தொழில் அதிபர்களின் திறமையும், தியாக உணர்ச்சியும், தேசாபிமானமும், சமுதாய நலனைக் கருதுவதில் உள்ள ஆர்வமுமே என்று கூறினால் மிகையாகாது. இத்தொழில் வளர்ச்சியில் சென்னை மாநிலம் ஒரு மாதிரி மாநிலமாக விளங்கும் என்பதில் சந்தேகம் இல்லை.

(திருச்சி வானொலி நிலையத்திலிருந்து ஒலிபரப்பப்பட்டது.)

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MADRAS-4

Handloom Industry

HANDLOOM FABRIC EXPORTS.

Quality Marking Scheme.

The All-India Handloom Board will introduce shortly the "Quality Marking Scheme" to increase the export of quality handloom fabrics. The scheme had already been approved by the Union Government.

The scheme includes inspection and quality marking of handloom fabrics meant for export. According to the proposal all fabrics meant for export should conform to the specifications and other particulars prescribed for the varieties already standardised such as "lungies", "kailies", "camboys", "mootus" and Madras handkerchiefs. The scheme also covers varieties of handloom cloth, other than those already standardised for export, provided a request is made by the exporter or the overseas importer. It is at present voluntary and the inspection and quality marking will be done without any charge.

The main objects of the scheme are: (1) to set up such machinery as would ensure the maintenance of standards of quality with regard to all handloom fabrics meant for export; and (2) to create mutual confidence between the exporters and importers overseas and thus avoid any charge of misunderstanding.

To implement the scheme, a special organisation with inspecting offices has been set up. The organisation will work under the guidance of the Inspection Wing of the Cotton Textiles Fund Committee, Bombay. The officers in Madras Circle will be attached to the Sub-Regional Office of the Textile Commissioner.

It is said that complaints were made in the past regarding the quality of fabrics supplied by the handloom industry. In the interests of the export trade in handloom

fabrics and to create confidence in the overseas importers, this scheme was recommended by a Special Committee.

In 1956, about 59,868 yards of handloom cloth, estimated to cost Rs. 86,717, were exported. In 1957 about 37,508 yards of handloom cloth valued at Rs. 55,629 were exported and in 1958, nearly 35,167 yards at Rs. 52,325 were exported. The figures show that there is progressive fall in the quantity of handloom cloth exported and it is due to competition from foreign countries. Out of this, according to official estimates, 80 per cent are from Madras.

The fabrics conforming to the standards prescribed will bear the certification trade mark of the All-India Handloom Board. The scheme, the officials expect, will go a long way in increasing the export of quality handloom fabrics.

SARI PRODUCTION.

Assurance to Handloom Industry.

Six non-official members of the All-India Handloom Board have issued a statement that in view of the clarification made by the Textile Commissioner, "we now feel that the handloom industry may not come under any handicap as was apprehended earlier" owing to the feared substantial relaxation of the partial qualitative restrictions on sari production by mills according to the Union Textile Commissioner's notification of 25 May 1959.

There was a meeting of the Standing Committee of the All-India Handloom Board, at which the Textile Commissioner clarified that his notification was not going to affect the handloom industry and that he would be making the position clear.

The statement has been signed by Mr. M. Somappa, President, All-India Handloom Fabrics Marketing Co-operative Society and five others.

**INDUSTRIAL
SNIPPETS**

A Unique Service to Brassware Industry

To help the age-old Brassware Industry at Kumbakonam, the Government has started a Brassware Servicing Centre to give technical assistance to Artisans with modern machinery.

It also manufactures and supplies Brass and Stainless Steel domestic ware, Wheel cocks, Taps, machine screws, Spot-welded assemblies and other allied Engineering requirements



Service Centre for Brassware and
Cutlery Industry, Kumbakonam

(A Unit of the Small Scale Industries, Government of Madras)

Industrial Snippets

COMPUTER USED FOR TEXTILE RESEARCH.

An analogue computer of modular construction is now being used for advanced research by British Nylon Spinner Ltd., leading manufacturers of Nylon and allied fibres in the United Kingdom, at its works in Newport, Monmouthshire. The new computer will enable the firm to explore new methods of producing and processing man-made fibres without the need for building costly pilot plants, and without interfering with the actual production plant of the factory.

One of its first tasks will be to investigate the precise control of yarn tension regulating and spooling, which is vital to the faster, more economic running of textile machinery. Each new technique can be tried out on the computer and positive results obtained in a very short time—often within a few hours.

(Computer made by Solartron Electronic Group Ltd., Thames Ditton, Surrey.)

DEVELOPMENT IN SHEET ALUMINIUM FOR TROPICAL BUILDINGS.

A new British development in aluminium sheeting will speed up industrial building. The British Aluminium Co., Ltd., has produced wall-making material in foot-wide strips up to 40 feet long, which will enable unskilled workers to erect big buildings in a matter of hours. The new exterior covering, called "Rigidal Seawall", was on show for the first time at a special exhibition recently held in London. It is assembled by an easy-to-work punch machine.

A spokesman for the company said that aluminium building covering has already proved its worth in many countries. The new material is especially suitable for the tropics, at it can be produced with an embossed surface to reduce the glare of the sun. The makers say that their product is slightly more expensive than conventional-type aluminium sheeting, but claim that this is more than offset by reduced assembly costs. The light weight of the material reduces transport charges, thus keeping the cost per sheet delivered below that of galvanized steel sheeting in many tropical areas.

POLYETHYLENE PLANT IN PRODUCTION.

A new plant for the manufacture of polyethylene has come into production at Fawley, near Southampton. Using a high-pressure process, it is making a range of polyethylenes at an initial rate of approximately 10,000 tons a year. The factory—only one of its kind in southern England—has cost some £3,250,000 to date. It is immediately adjacent to the Esso Petroleum Co., refinery, from which it takes its raw material, ethylene.

Polyethylene is one of the most versatile of all plastics materials. In addition to being used in many labour-saving domestic applications, from colourful kitchenware to moisture-proof bags and wrappings, it is used in large quantities in the electrical and radio industries, in all kinds of packaging including flexible bottles and jars, in light frost-and corrosion-proof piping, and in a wide variety of soft, unbreakable, and brightly coloured children's toys.

(Monsanto Chemicals, Limited, 10-18 Victoria Street, London SW1).

NEW SYSTEM PREVENTS CHIMNEY CORROSION AND SMUTS.

Experiments carried out in Britain indicate that the emission of smuts from industrial boilers can be prevented by insulating the metal chimney with an aluminium shield. This keeps the temperature of the chimney sufficiently high to prevent an acid layer and smuts from forming. In co-operation with Shell-Mex and British Petroleum Limited and the British Launderers Association, the experiments were made at laundries, dairies, and other factories.

It was shown that acid can be deposited on metal chimney walls and cause corrosion. Soot and other solids stick to the acid and build up to a layer, which flakes off periodically and is broken into smuts to be carried out of the chimney by the flue gases. By surrounding the chimney with an aluminium shield, it can be kept at a sufficiently high temperature to prevent the acid layer and smuts from forming. Although designed for oil-burning equipment, the system is expected to be equally applicable to appliances burning other fuels.

TELEVISION SPEEDS OUTPUT OF BRITISH STEEL WORKS.

The installation of 15 closed-circuit television channels in the new Steel Co., of Wales rolling-mill at Port Talbot was completed last December by Marconi's Wireless Telegraph Co., Ltd. Since that time, it is claimed, the equipment has been working continuously day and night, helping to speed output by providing the facility of remote observation.

The cameras are mounted in line on one of the outside walls of the rolling-mill, looking inwards and downwards at an angle at a rail track. Each camera is fitted with a special wide-angle lens and surveys some

45 ft. track, so that a total of approximately 700 feet of track is covered. The separate camera outputs are fed to control racking in an adjacent building and thence to a dais or pulpit in the rolling-mill, where the pictures are displayed on 15 monitors.

By this means, an operator in the pulpit is provided with a close-up composite view of approximately 700 feet of track, the far end of which is some 1,000 feet away from him in terms of physical distance. This facility, in brief, enables him to control two electrically driven buggies which travel in opposite directions on the common track, and which have to be brought to a halt in contact but without collision.

OIL-RESISTANT INDUSTRIAL GLOVES.

A new range of industrial gloves and gauntlets made from Hycar, a nitrile rubber highly resistant to oils, is being produced at a Manchester plant. These gloves are especially resistant to petroleum products, vegetable and animal fats, oils, alcohols, glycols and many common solvents.

They have many advantages over other types normally used for resisting solvents, in that they give longer service, greater flexibility, and do not harden after use. The Hycar gloves and gauntlets are made in one weight only, in sizes 9, 10 and 11.

(Dunlop Rubber Co. Ltd., General Rubber Goods Division, Cambridge St., Manchester.)

NEW DEVELOPMENT REDUCES WELDING COSTS.

A development which, it is claimed, will reduce costs and speed up the welding of steel by the electric arc process has been announced by the British Welding Research Association. These advantages spring from the closer degree of control said

to be attained in a method of welding which uses bare wire in conjunction with carbon dioxide gas instead of conventional coated welding rods.

The carbon dioxide shields the molten weld during its formation from the surrounding air—a function usually performed by the flux coating of coated welding electrodes. Advantages claimed are higher welding speeds, saving of time spent in changing rods, and absence of slag.

(British Welding Research Association, 29 Park Crescent, London W-1.)

HIGH-PRECISION SURFACE GRINDING MACHINE.

A high-precision surface grinding machine capable of working material up to 72 inches long, 18 inches wide, and 20 inches deep has been produced by a Sheffield engineering firm. It will be shown at the European Machine Tool Exhibition in Paris (September 12 to 21). The machine is controlled electronically by pushbuttons and selector switches from an elevating control panel which can be raised or lowered hydraulically to the height most convenient for the operator.

Automatic downfeed is incorporated, which gives an independent choice of roughing and finishing feeds, working in conjunction with automatic sizing equipment. This sizing equipment not only compensates for the amount of abrasive removed from the grinding-wheel during the truing operation, but also compensates for loss of abrasive during the actual grinding.

(Snow & Co. Ltd., Machine Tool Makers, Stanley St., Sheffield-3.)

ELECTRONIC EQUIPMENT FOR NUCLEAR WORK.

An advanced machine designed for the analysis and recording of electronic impulses for determining radioactivity in nuclear materials has led to a number of orders

from overseas for a British manufacturer. The machine, a pulse height analyser, has a relatively new type of memory system which is claimed to be reliable and, at the same time, in a lower price range than other machines with a "magnetic core memory". It has a total weight of 656½ lb., and an overall height of 6 feet 6 inches. A base width of 2 feet 1 in., and a base depth of 2 feet 4½ inches.

The analysers have already been chosen for several nuclear research centres abroad. A number have also been installed in British nuclear power centres, as well as many universities and research centres.

(Marshall of Cambridge Electronics, Ltd., The Aerodrome, Cambridge.)

NEW POROUS PLASTIC WILL HELP INDUSTRY AND SURGERY.

A new porous plastic material with many possible uses is being manufactured by a British firm. Produced from high-density polyethylene, the new material, Vyon, has already found applications in air and liquid filtrations and air fluidized powder conveying. As it is naturally water-repellent, it is an excellent material for use as an aeration pad, its non-absorbency making it difficult to clog.

The advantages in using Vyon for filtering are that it is light and strong and, therefore, easy to transport and manipulate. The material is easily fabricated, is machineable and can be welded and drilled; it is also easily engineered and fitted into plant and equipment.

Important uses have been found for Vyon in surgery—as flail arms for paralysed patients, and as orthopaedic splint. While providing a firm yet flexible support for the limb, it allows air to reach the skin. The material is inexpensive and has chemical

resistance to a wide range of aqueous solutions. Vyon was shown at the International Plastics Exhibition in London (Olympia, June 17 to 27).

(Pritchett & Gold & E.P.S. Co., Ltd.,
Dagenite Works, Dagenham Dock, Essex.)

ADHESIVE FOR FOAM RUBBER.

A new adhesive for the bonding of natural and synthetic foam, suitable for use in the upholstering of railway carriages, coaches, and aircraft as well as the manufacture of mattresses, cushions, and pillows is now being produced by a British rubber company.

It is a white adhesive comprising plasticized synthetic rubbers in a blend of non-toxic solvents, and gives a particularly strong and flexible bond.

(Dunlop Rubber Co., Chester Road,
Birmingham.)

DRILLING EQUIPMENT FOR FOUNDATION WORK.

A British—designed and—built machine which can burrow 80 feet into the ground in a few hours to create foundations able to carry loads of up to 2,000 tons was demonstrated at a construction site in central London recently.

The equipment utilizes a conventional mobile excavator as a "prime mover" or power source. Attached to the excavator is a boom which supports the auger—a corkscrew like device used to draw earth from the ground as a cork is drawn from a bottle.

Speeds of more than 20 feet per hour can be achieved by the machine when sinking shafts in clay—and no linings are necessary. The new drilling equipment has been

built after study in the field of oil-drilling methods and civil-engineering construction throughout the world.

(Economic Foundations, Ltd., Dawley Rd., Hayes, Middlesex.)

ROBOT LAWN MOWER.

Before long it may be possible to sit back in the shade and let a robot mow the lawn. A British firm has developed and produced the first radio-controlled lawn-mower shown to the public for the first time at the Chelsea Flower Show at the end of May.

The chief task was to make a lawn-mower chassis that could turn by its own effort. By using an entirely new concept of lawn-mower design, the firm produced a machine which can wheel and turn like a circus horse. The mower, an experimental model not available to the public, travels at nearly 2 m.p.h., has a 14 inches cutting width, and makes 60 clips to the yard. Effective range of the radio control is up to a mile.

(H. C. Webb & Co., Ltd., Tame Road,
Witton, Birmingham-6.)

SULPHUR FROM OIL PRODUCTS.

A £2,000,000 hydrodesulphurizer plant for the removal of sulphur from petroleum products is being built at Shell Haven, in the Thames estuary.

Gas oil to be desulphurized is contacted with hydrogen and made to trickle over a special catalyst. The hydrogen, which will be drawn from a "platformer unit" at Shell Haven, converts the sulphur compounds into hydrogen sulphide, which will be processed to make some 20 tons of pure liquid sulphur a day.

(Shell International Petroleum Co., Ltd.,
No. 1, Kingsway, London WC-2.)

PLANT FOR MAN-MADE TIMBER.

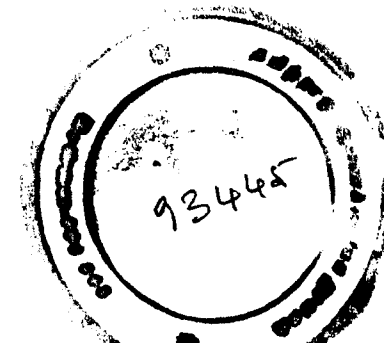
A new £250,000 plant for producing man-made timber has been opened at Weybridge, Surrey. The new factory will make wood-chip board, which is produced from processed industrial wood waste—wood shavings and chips or forest thinnings—bound together with a synthetic resin under heat and pressure. The new plant has one press capable of curing 10 boards at a time. It is completely automatic and specially constructed for chipboard manufacture.

The finished product is used in the building, furniture, and other wood-consuming industries. The manufacturers say that wood-chip board's advantages over natural timber include negligible shrinkage and swelling, freedom from knots and other defects, improved resistance to flame spread, and higher resistance to vermin and fungoid growth.

(Airscrew Co. & Jicwood, Limited,
Weybridge, Surrey.)

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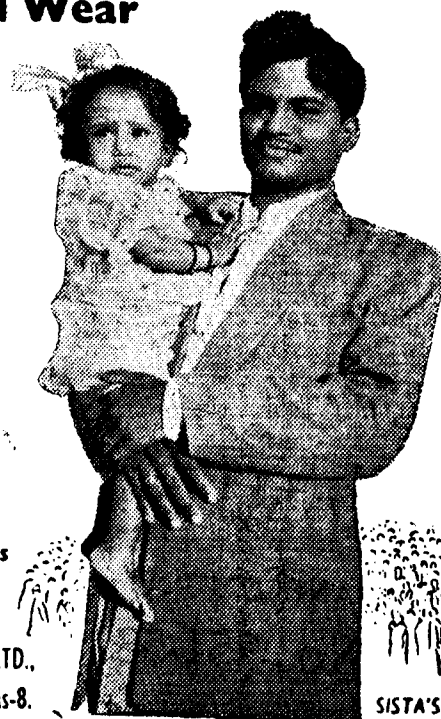
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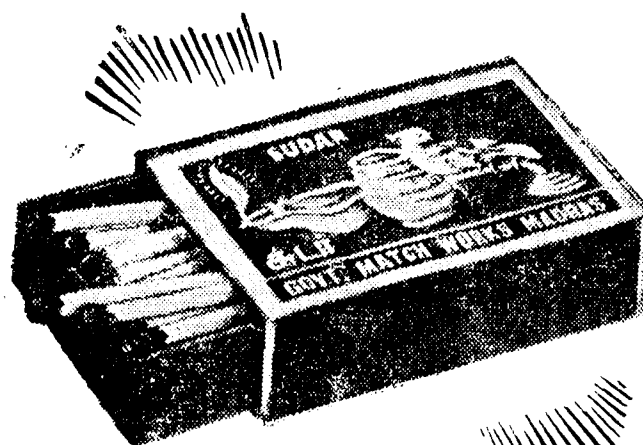
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News Digest

DEVELOPMENT OF MADRAS.

Achievements in twelve years.

STATE WELL SET TO CONSOLIDATE GAINS.

Madras, in the twelfth year of freedom, is poised to consolidate the gains in the form of productive resources created under two successive plans. This shift in emphasis is already reflected in the State-wide khariff campaign launched this year and in the energetic drive initiated to see that all the newly created irrigation potential is utilised to the fullest extent.

This is so in practically every other State endeavour. In the field of education it has led to the evolution of the "cost-Control" system so that the quantitative improvement of the last seven years, could also be reflected in the quality of education. Apart from this the increasing willingness of the people to shoulder the expenditure on locally important schemes, is a factor which is likely to influence the pattern of Government activity in future years. This new enthusiasm is particularly evident in the success of Local and Community Development Works, as also in the success of School Improvement and School Meals Schemes. To the extent social services are financed by local effort, the State's effective outlay on power and industries, will be all the greater in the coming years.

The State's food production has been increasing by about two lakh tons every year over the past few years. This increase is achieved both by improved agricultural practices, and by extension of agriculture to new areas.

Along with agriculture, schemes of fisheries, animal husbandry and forestry have been pushed through on the pattern

set by the Plan. With a view to assisting the fishermen for better exploitation of the marine resources of the State, the Fisheries Department has just concluded a survey of the coastal waters with the help of certain vessels and gear received under the Indo-American Technical Co-operation Assistance Programme of the F.A.O. The survey took four years to complete and complete chart of profitable fishing areas off the 620 mile shore line of the State is now available. The survey showed that the coastal waters of Madras are rich in bottom fisheries and that these can be easily exploited by small powered vessels with nylon nets.

MECHANISED FISHING BOATS.

Already, as a result of the experimental measures and demonstrations, the fishermen have fully realised the advantages and benefits of mechanised fishing, and have commenced to demand supply of such boats and nylon nets. At present more than 72 Pablo type boats have been built and distributed under the hire-purchase system to groups of fishermen and all of them are in use. Thirty more boats are under construction now. Sixty fishermen have been trained in using mechanised boats.

Side by side with schemes for improving their catches, the fishermen are also helped to market their catches easily. To this end, four lorries, nine lambrettas have been put into use. The four reservoirs, Bhavani, Amaravathi, Manimuthar and Sathanur, have been stocked with 13 crores of fingerlings and in the current year stocking of Vaigai and Krishnagiri reservoirs and the Avalanche hatchery will be taken up. The increased use of mechanised boats, has brought out the need for

boat-building yards and fishing harbours. Work on a boat-building yard with slipway in Madras is under way. Fishing harbours have been proposed for Madras, Nagapattinam, Cuddalore and Leepuram.

LIVESTOCK DEVELOPMENT.

The Animal Husbandry work in the State consists of preserving the strain and increasing the numbers of certain well-known breeds of cattle like Sindhi, Kangayam, Gir, Hallikur, Murrah and Thaparkars in the four Livestock farms at Hosur, Orthanad, Pudukottai and Chertinad. The State has only 2,893 breeding bulls of the well-known strains mentioned above and by resorting to the artificial insemination method, coupled with elimination of scrub bulls from the 27 key-village areas the State is steadily improving the 32.6 lakhs cows and 11.5 lakhs she-buffaloes. Similar steps have also been taken in respect of sheep and poultry. There are 115 veterinary institutions for attending to livestock diseases and for prophylactic measures against epidemics.

The Madras Milk Project costing Rs. 1.24 crores, for concentrating the city milch cattle in a colony and developing it into a hygienic dairy unit is making steady progress. All the 703 acres of land required for the colony has been acquired near Madhavaram, a village on the outskirts of Madras City and the construction of the first unit for 500 cattle with accommodation for their owners is nearing completion. Work on three more such units for 500 cattle each, has been started.

The forests of the State are being developed and expanded not only to fulfil their traditional role as the home of the wild life and supplier of many species of timber and forest produce, but also to serve the needs of livestock and agriculture on the one hand and of industry on the other.

The improvement of irrigation facilities has been held to be one of the sacred tasks of Government and as such over the last eleven years a sum of Rs. 61 crores have been spent on the major irrigational projects in the State. Under the Second Plan the total expenditure up to March 1959, has been of the order of Rs. 9.31 crores. In the year 1958-59 irrigation facilities were extended to 39,000 acres—12,000 acres under the Amaravathi Project and another 12,000 acres under Sathanur represent the two significant items. During the current year irrigation facilities will be extended to 25,000 acres, including 10,000 acres under Vaigai. In the Vidur Reservoir Project costing Rs. 1 crore the earth dam has been completed and the excavation of canal and distributaries are expected to be completed this year.

In order to see that the impounded waters are utilised as quickly as possible, the Government have directed that in all major projects the distributary canals and small channels taking water to sizable blocks of more than 50 acres, might be excavated side by side with the execution of the project. The Vidur, the Vaigai and the two canal schemes of Pullambadi and Kattalai represent the new schemes of the Second Plan and all the four schemes are likely to be put into use during this year.

Parambikulam Project: The most significant item in the irrigation programme of the State is the Parambikulam Project which, at a cost of Rs. 32 crores, will irrigate 2.5 lakhs acres in Pollachi, Dharampuram and Udumalpet taluks of Coimbatore and add 1,21,000 k.w. of power to the State grid. This project involves the diversion of the west-flowing rivers of Parambikulam, Sholiar and Aliar by means of several tunnels, the total length of which will come to 5½ miles. The total capacity of the several inter-connected reservoirs forming part of the schemes comes

to 31,000 m.cft. In the current year's budget a provision of Rs. 1 crore has been made for the project, and next year an expenditure of Rs. 3 crores is planned.

Minor irrigation schemes have assumed very great importance of late, as they yield quick results, particularly in the dry areas. Over the last three years, schemes costing Rs. 236 lakhs have been completed bringing irrigation to 177,000 acres. The budget provision for these schemes in the current year is Rs. 1.18 crores. It has been found that the execution of this programme in the dry areas bear immediate increase in food production. The Special Minor Irrigation organisation is therefore being asked to treat such areas as "Priority Zones".

LARGE-SCALE INDUSTRIES.

Last year saw several new undertakings usually classed as major industries go into production in the State, for turning out dead-burnt magnesite, transformers, pig iron, fuse distribution equipment, Dunlop tyres, broad gauge goods wagons and metre gauge wagons. It is significant that all these industries have been established in the private sector. Manufacture of electric motors and power-driven pumps has made steady and sustained progress in the State, the present production capacity being 31,820 motors and 32,820 pumps.

In connection with the establishment of paper and allied industries in this State, a rough estimate of the available raw material resources has been made. It has been found that there is scope for the establishment of two mills at Mettur and Bhavanisagar, each with a capacity of about 50 tons a day based on bamboo, eucalyptus and bluegum woods, and a third smaller plant in the Papanasam area of the Tirunelveli district based on eeta reed.

The aluminium factory at Mettur and the raw film factory at Hullati on the Nilgiris, are in the preliminary stage of establishment.

LIGNITE MINANG.

The Neyveli lignite project in South Arcot district is the most important Plan project in this State, and lignite will be mined from next year. The thermal power station schemes for generation of 250 megawatts of electric power has been sanctioned. This will be financed with the aid of Russian credit. The detailed project report from the Russian firm has been received and a contract for the supply, erection and maintenance of the power plant is being finalised.

The fertilizer production scheme for the manufacture of urea with a nitrogen content of 70,000 tons per annum has been sanctioned, subject to the availability of foreign credit. Orders for the supply of plant and equipment for the fertilizer scheme will be placed shortly.

In regard to carbonizing and briquetting schemes, a pilot plant has been set up at Neyveli with the assistance of the Technical Co-operation Mission. Trial runs have been conducted and a detailed project report is being drawn up.

The most important industry of the State is the textile industry and there are 26 composite mills and 103 spinning mills, with 28.19 lakh spindles and 8,013 looms. The rayon yarn factory set up in Mettupalayam by a private company with a capital of Rs. 10 crores is likely to go into production early next year. Tanning is the other important industry of the State fetching an annual revenue of Rs. 2.5 crores and with the establishment of the Central Leather Research Institute, tanning of even superior quality of leather is being slowly attempted. The establishment of an industrial estate for the tanning industry is being vigorously canvassed.

Under the Industrial Estate scheme, 78 units in Guindy, 15 in Virudhunagar, seven at Erode, eight at Pettai, 12 at Madurai and five at Marthandam have been completed. The Guindy Estate and Madurai colony have already started functioning and the demand for space in these places is on the increase. In other colonies, the industrialists have started moving in and will commence production shortly.

In the current year it is proposed to add 19 units in Guindy, six units in Madurai, 14 units at Tiruchirappalli and six units at Tanjore. The demand for space in the industrial estates is encouraging and the possibility of starting some more industrial estates by means of private investment corporations, is being explored.

With the financial assistance provided from the Handloom Cess Fund a number of schemes costing Rs. 125 lakhs are being implemented in this State for the development of handloom industry in the current year.

A phased programme has been drawn up for bringing at least 50 per cent of the handloom weavers in the State into the Co-operative fold by the end of the Second Five-Year Plan period. For 1959-60 provision has been made for Rs. 31.12 lakhs and 12,500 weavers are expected to come into the co-operative fold.

HOUSES FOR WEAVERS.

The Government of India are sanctioning financial assistance for the setting up of housing colonies by weavers' co-operatives. The entire cost of a house, subject to a ceiling of Rs. 3,600, is provided by the Government of India, 2/3 as loan and 1/3 as subsidy. Thirteen housing schemes for the construction of 1,368 houses have so far been sanctioned and they are under various stages of execution.

Three co-operative spinning mills are coming up in the State with Government assistance in the capital structure, to ensure steady supplies of yarn of good quality at fair prices to the handloom industry. These mills have been started in Tirunelveli, Tiruchendur and Ramanathapuram, the Tirunelveli mill has already gone into production.

With a view to providing remunerative employment to the large rural agricultural population and to achieve self-sufficiency of cloth in terms of Khadi, the Government have taken a keen interest in the development of Khadi industry which is one of the major Rural Welfare Schemes.

The Co-operative movement in our State is sought to be given a new turn as the sole supplier of agricultural credit. The Co-operatives which covered over 49 per cent of the villages in the State and served 21 per cent of the rural population at the commencement of the Second Plan period covered 84 per cent of the villages and served 34 per cent of rural population last year, providing a total loan of Rs. 13.5 crores.

Three industrial housing societies registered during the year will build 447 houses for workers.

COMMUNITY DEVELOPMENT PROGRAMME.

The Community Development programme is now in operation in 193 blocks covering 9,300 villages benefiting 155 lakhs of the rural population. The State has been delimited into 360 blocks. The total five-year provision for this programme is Rs. 12.75 crores, and by the end of the Second Plan period the programme will be in operation in 211 blocks. The expenditure in the current year is likely to be of the order of Rs. 287 lakhs. The seven rural extension training centres are capable of turning out 600 grama-sevaks, trained under the extended training course of two years' duration.

INDIAS' TRADE WITH U.S.

Scope for expansion.

MISSION'S ADVICE TO BUSINESSMEN.

The members of the United States Trade Mission paid a visit to the Southern India and Andhra Chambers of Commerce on August 10 and held discussions with the members on matters relating to the development of trade between India and the United States.

Mr. Edwin C. Higbee, Leader of the Trade Mission, stated that the members of the Mission were interested in studying the problems facing businessmen in connection with the industrial development under the Five-Year Plan. The Export-Import Bank, he said, had provided credit of 150 million dollars to the Government of India to import capital equipment from the United States. Private importers could also avail themselves of the credit through the Government of India. The United States had agreed to supply her surplus agricultural products to India.

Mr. Howard N. Nutt, a manufacturer, said there were many problems in common to India and the United States in respect of industrial development. India could take advantage of the experience of American engineers in overcoming their difficulties. He paid a tribute to the high standard attained by Indian engineers and assured the co-operation of their American counterparts in building up new industries.

Mr. Robert Hubbard, a merchant, said American businessmen bought their merchandise from all over the world and Indian goods could enter America only on a competitive basis. He advised Indian merchants to remember the fact that design changed from country to country and they must send consumer goods, according to the tastes of American buyers. Imported goods

consistent with quality had a great attraction among them. He added that great importance was attached to the time factor in America and, therefore, goods had to be delivered according to the time schedule without delay.

Mr. John W. Buskie, a metallurgist, pointed out that manganese ore was imported in the United States from India and Brazil. India being the largest producer of manganese ore, there was great scope for increasing her exports to the United States, as its consumption was very high there.

STEEL PRODUCTION.

Mr. Royden G. Derrick, an industrialist, said they were glad to know that India had raised her production of steel from two million tons to six million tons and this would assist her industrial development. The United States had made great strides in the matter of steel prefabrication industry and they had been able to reduce 50 per cent of their steel in the construction of buildings.

Mr. Kenneth O. Birney, a banker, explained the methods of financing small industries with regard to long term, medium and short term credit with special reference to the role of commercial banks and private credit institutions.

At the Andhra Chamber of Commerce, Mr. V. Emberumanar Chettiar, President, said, the United States was India's second largest buyer, next only to the United Kingdom. India was an important supplier to U.S.A. of items like mica, shellac, black pepper, manganese ore, tea and cashew kernel. They had been exporting other items like textile fabrics, tobacco, leather manufactures and handicrafts. India's exports to the United States had fallen from Rs. 94 crores in 1957 to Rs. 82 crores in 1958 and this was due to a decline

in the exports of manganese ore, jute goods, castor oil and cashew oil. Because of the shortage of foreign exchange, India had to adopt a restrictive policy of imports and this precluded their importing a number of items. It afforded an opportunity for the manufacture of such items in India with U.S. technical or financial assistance. He felt if U.S.A. could come forward to supply India the right type of machinery and equipment for different small-scale industries, it would go a long way in promoting the industrial well being of the country.

Mr. Edwin C. Higbee expressed the hope that the exchange of visits of businessmen would promote trade in both directions.

INDUSTRIAL ESTATES.

Centre sanctions three new schemes.

The Union Minister for Industry, Mr. Manubhai Shah, announced on August 30 that the Union Government had decided on three new schemes for setting up industrial estates.

The three schemes are, the Assisted, the Co-operative and the Rural Industrial Estates with built-in power plant. The Minister, inaugurating an industrial estate near Jaipur, said the Union Government would arrange for a loan of Rs. 10 lakhs if a group of industrialists, 10 to 20, joined and collected among themselves Rs. 2 lakhs to set up an estate, which would be called "assisted industrial estate." The loan is repayable in 10 years.

If industrialists joined on a co-operative basis and collected a capital of Rs. 1,00,000 the Union Government would arrange for a loan of Rs. 10 lakhs. This will be called "co-operative industrial estates."

Under the third scheme, areas with industrial potential would be helped by setting up rural industrial estates. Each one

will have a built-in power plant, costing Rs. 20,000 to Rs. 25,000.

Mr. Shah said that "assisted industrial estates" could also be started at places where there were industrial estates.

INAUGURATION OF GLAZED POTTERY CENTRE.

Mr. R. Venkataraman, Minister for Industries and Labour, inaugurated on August 28 the glazed pottery centre at Karigiri, seven miles from Vellore.

The Minister said that in spite of the growth of modern industries the Government encouraged handicrafts without allowing them to decay. People, both in towns and villages were interested in handicrafts.

He announced that a polytechnic institute would be opened soon at Gudiyatham.

Mr. E. N. Narayanasami, Assistant Director of Industries and Commerce, said artisans would be trained for six months at the centre and would be given wheels and tools.

A down-draft-kiln with a covering shed at a cost of Rs. 6,800 was prepared and given free to the centre. A work shed, improved wheels, moulds and an electric furnace for glazing pottery at a cost of rupees 30,000 were also provided.

CENTRAL LEATHER RESEARCH INSTITUTE (COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH).

Symposium on 'Utilisation of by products of the Leather Industry'.

The fifth in the series of the Symposia will be held at the Central Leather Research Institute in February 1960. The subject for the forthcoming symposium is *Utilisation of by-products of the Leather Industry*.

Nothing is a waste. There is hardly anything for which research and industry cannot find a use. More often than not, profits of any industry depend, to a very great extent, on how best the wastes are utilised. In the conversion of a putrescible raw hide or a skin to leather that is resistant to heat, hydrolysis and bacteria, the hide or the skin undergoes a number of wet and dry operations. A variety of by-products are obtained during these operations. The successful utilisation of these by-products depends upon the plant output, efficient collection and handling methods.

A large volume of tannery effluents from the operations of soaking, liming, unhairing, bating, etc., containing large quantities of suspended nitrogenous matter are profitably utilised as fertilisers. The lime sludge could be used as heating briquettes and also for stabilisation of certain soils. The coagulable proteins from the curing brine are suitable substitutes for casein. The skin trimmings and waste fleshings are ideal raw materials for the manufacture of high quality photographic and edible gelatin as well as glue and for the manufacture of sausage casings. The hair is used in the felt and other products. Certain amount of tannins can be recovered and spent tan barks used for fuel, to cover the tracks in the race course and in the manufacture of card boards and white lead. The sludge from the tan pits is used for fuel and for reducing bichromate in the manufacture of basic chrome liquors. The other types of wastes are leather trimmings, shavings and leather dust, which could be utilised for the manufacture of fertilisers, glue, leather boards and fancy articles.

The leather industry should also be keenly interested, though indirectly, in the effective utilisation of the animal carcass by-products. The basic raw material for the tanner (raw hide) is after all the by-product of the agriculture and meat industry. This is a major problem, particularly in

India, where organised slaughter houses are few and the dead animals have to be collected from the far off villages of the vast country. There will be certain wastes also in the manufacture of industrial leathers like pickers, picking bands footwear and leather goods and the economic and effective utilisation of the same should bring additional profits to the industry.

It is to be admitted that, at present, there is not a proper exploitation of these by-products in the Indian Leather Industry. It is also evident that there is a great potentiality for developing the industry based on the by-products of the leather industry. The Planning Commission has been giving a serious thought to the utilisation of agricultural and industrial wastes including that of the leather industry. It is in recognition of the urgency of tackling this problem on a solid scientific basis, this subject, 'Utilisation of by-products of the Leather Industry' has been chosen as the topic for discussion at the forthcoming symposium at the Central Leather Research Institute. This would give an opportunity for the workers in this field to get acquainted, to pool their ideas and share their knowledge on the subject and chalk out a clear-cut programme and draw up a blueprint for the economic utilisation of by-products of the leather industry.

The scope of the symposium is given in appendix 'A' and the papers are invited on these subjects. Since translation arrangements have been made, papers may be presented in English or in any other language. The success of the symposium will depend on the active co-operation of the representatives of various organisations who will participate.

Appendix 'B' should be filled in and returned along with the abstract of the papers on or before the 30th October 1959 to enable us to finalise the programme of various technical sessions. Then, it is proposed to circulate the full text of the papers

to all the delegates for their prior study in order to have a thorough discussion at the time of the technical sessions. It would therefore be very much appreciated if full text of the papers is received by the 30th November 1959.

It is hoped that the members of all organisations will be able to attend the symposium and give their fullest support to the discussions and deliberations of the symposium.

It is proposed to organise an exhibition on this occasion to display the by-products of the tanning industry as well as the products manufactured out of these. Those interested in participating in the exhibition may please send their exhibits before the end of December.

All communications may be addressed to the Convener, Symposium Committee Central Leather Research Institute, Madras 20.

APPENDIX A.

Scope.

Utilisation of the by-products of—

I. Beam House Operations—

- (a) Used curing agents.
- (b) Trimmings and fleshings.
- (c) Hair and Wool.
- (d) Lime sludge.
- (e) Lime splits.
- (f) Recovered grease.
- (g) Used liquors.

II. Tanning Processes—

- (a) Spent tanning materials.
- (b) Spent tanning liquors.

III. Finishing Operations—

- (a) Shavings, splits, trimmings and buffing dust.
- (b) Recovered grease from chamois in leathers, etc.
- (c) Utilisation of residual oil products and other tanning auxiliaries.

IV. Treatment, utilisation and economic disposal of tannery effluents.

V. Utilisation of the by-products of leather manufactures, viz., waste pickers, picking bands, roller skins, picker savers, washers, belting, trimmings, scraps, etc.

VI. Utilisation of reclaimed leather, footwear and leather goods.

VII. Economic utilisation of carcass by-products.

APPENDIX B.

Central Leather Research Institute, Adyar P.O., Madras-20.

(Particulars to be furnished by those intending to participate in the symposium.)

1. Name and full address of the Organisation/Office.
2. Name(s) of delegate(s) and full address.
3. Title of Paper(s).
4. Is accommodation in Madras to be reserved for you.
5. Are you interested in visiting tanneries in and around Madras.
6. Any other request or suggestion not covered above.

MORE CENTRAL POLYTECHNICS.

Recommendations of Regional Body.

The establishment of an Engineering College at Palghat and seven Centrally sponsored Polytechnics at Mandy and Raichur (Mysore State), Proddatur and Nizamabad (Andhra Pradesh), Nagercoil and Vellore (Madras State) and Kottayam (Kerala State), were approved by the Southern Regional Committee of the All-India Council for Technical Education at its twelfth meeting held in August.

The College at Palghat will be in the State sector for which the State Government of Kerala has made necessary provision in their Plan. It will start functioning in the year 1960-61. Some of the Centrally sponsored Polytechnics will start functioning from the current academic year and the rest from the year 1960-61. The meeting was presided over by Dr. A. L. Mudaliar, Vice-Chancellor, University of Madras, who is the Chairman of the Southern Regional Committee.

The Committee reviewed the progress of development of a large number of technical institutions in the region and decided to set-up Reviewing Committees, one for each State to assess the progress of the development programmes to ensure improvement of the institutions to be in conformity with the standards prescribed by the All-India Council for Technical Education and to report on the financial position of all the private institutions. The Reviewing Committee for each State will consist of three experts, not belonging to that State and the Regional Officer of the Central Government at Madras. The Regional Committee also recommended that as an integral part of the Third Five-Year Plan, efforts should be made to attain a proportion of 1:3 for graduates and diploma-holders in the region so as to provide a balanced development of training facilities for technical personnel at different levels. The present development in the region indicates the proportion of roughly 1:2. Since a larger number of diploma-holders will be required for holding supervisory position in industry, power

projects, transport undertaking communications, etc., the recommendation of the Regional Committee seeks to attain a proper balance in the development of technical education facilities at the College and at the Polytechnic levels.

The Committee also recommended the sanction of loans for the construction of Hostels for two technical institutions—Krishnadevaraya Polytechnic, Wanaparti and Government Engineering College, Trichur, so as to provide for the residential accommodation for 50 per cent of the students of the institutions in the Hostel.

ARCHITECTURAL STUDIES.

The Committee considered the question of development of facilities for architectural studies in the region and decided that the Department of Architecture started by the University of Madras on the recommendations of the All-India Council for Technical Education sometime back, should be developed into a full-fledged School of Architecture and for that purpose necessary instructional facilities in the form of buildings, equipment, etc., should be provided on an adequate scale. A Visiting-Committee consisting of Mr. S. H. Parelkar, Chairman of the All-India Board for Technical Studies in Architecture and Town Planning and Mr. C. M. Master, a well-known architect of Bombay and Mr. V. R. Reddy, Regional Officer of the Central Government was set-up to formulate detailed proposals on that account.

The Committee reiterated its earlier resolution regarding the urgent need for the establishment of close co-operation and co-ordination between industry and Government Departments on the one hand and technical institutions on the other. The co-operation should envisage the provision of practical training facilities for technical

students by industry and Government Departments, part-time teaching services to be rendered by experts in industry and Government Departments for the benefit of technical institutions and for the provision of practical experience for teachers of technical institutions in technical aspects. As an exchange of this type of co-operation the Committee recommended that technical employees of industry and other organisations should be permitted to undergo special Sandwich Courses organised at selected centres in the region subject to certain conditions which will ensure a satisfactory completion of the course in accordance with the Scheme formulated for the purpose. This arrangement will help workers who did not have the benefit of formal technical education earlier and to go through recognised course of technical education, acquire the recognised qualifications and have opportunities for advancement in their profession. One of the centres sanctioned for Sandwich Course has started functioning this year at the Central Polytechnic, Madras. It is proposed to expand the Scheme of Sandwich Course and have centres of training in the other States.

AGE-LIMIT FOR ADMISSION.

The Committee considered in detail the question of age limit for admission to technical institutions which has attracted considerable attention in the southern region as well as outside. Certain Universities in the region have already prescribed 16 years as minimum age for admission to Degree courses in Engineering and Technology. Some Universities have not prescribed any age-limit. The rest have prescribed age-limits ranging from 15 years to 17 years. In order to have a uniform policy in this respect and also to be in conformity with the reorganisation of Secondary Education that is in process in the country, the Committee recommended that

all institutions in the region should prescribe completion of 16 years on the 15th July of the particular academic year as the minimum age limit for admission to the 5-Year integrated degree courses in Engineering and further that this recommendation should become operative not later than the year 1963-64, wherever it is not already in force.

The Committee was attended among others by Mr. L. S. Chandrakant, Special Officer of the Indian Institute of Technology, Madras, and the Directors of Technical Education of Madras, Mysore, Andhra and Kerala States and Principals of some technical institutions.

MOVE FOR STATUTORY WAGE BOARDS.

State Labour Committee's views sought.

Mr. R. Venkataraman, Labour Minister, invited on August 28th the State Labour Advisory Board to offer its views on a Union Government's proposal to make wage boards statutory, making their decision binding and enforceable on management and labour.

The Minister, who was presiding at the meeting of the Board at the Secretariat said the Government had accepted the Board's recommendations and constituted an Evaluation and Implementation Committee at State level with five representatives each of employers and employees under the Chairmanship of the Labour Commissioner to evaluate and implement agreements and awards as well as to secure the proper enforcement of labour enactments.

That Committee, at its meeting early in September had also taken up the question of devising ways of further popularising

the Code of Discipline, and ultimately the function of investigating breaches of the Code, if any, might also devolve on it.

Dealing with the workers' education scheme, the Minister confessed that it could not be introduced in this State yet, as no trained Tamil-knowledge teacher-administrators were available. The election of candidates for the Training had now been finalised, and their training would commence in the middle of October at Calcutta, and as soon as the training was completed and Tamil-knowing teachers became available, the scheme would be introduced.

The Union Government had accepted the recommendations of the Official Committee to fix wages of working journalists, and this Government had appointed an Inspector of newspaper establishments to take action for the implementation of the recommendations.

BEEDI INDUSTRY.

As regards minimum wages for the beedi industry, rates had been fixed, but the rates for beedi rolling could not be enforced in view of the High Court's orders staying the enforcement, pending the disposal of a writ petition filed by some employers. The minimum rates of wages for employment in agriculture had been notified which would be finalised shortly after considering suggestions and objections.

The Minister listed six additional employments included in the Schedule of the Minimum Wages Act—employment in the match and fireworks factory, hosiery manufactory, cotton ginning and pressing, salt pans, coir manufactory, and bricks and tile manufactory—and said draft notification in this respect was being finalised, when action would be taken on it.

INDUSTRIAL RELATIONS.

Dealing with industrial relations, Mr. Venkatarauan expatiated on the Government's achievements in this sphere, since, on the whole, satisfactory, and he gave statistics of disputes and settlements arrived at through various processes of procedure laid down.

It was seen from the reference of labour disputes to Labour Courts and Industrial Tribunal that a sizable proportion of them related to the discharge and dismissal of individual workers.

Proposals, the Minister announced, were under consideration for separate legislation with a view to provide separate and self-contained machinery to deal with disputes relating to discharges and dismissals of individual workers. A draft Bill had been circulated to members of the Board, and he hoped they would give their views on it which would be valuable in finalising the bill.

The Employee's State Insurance Scheme, Mr. Venkatarauan stated, had been enforced in specified areas covering about 171,000 workers in about 620 factories, and its enforcement throughout the State would be completed before the end of the current financial year.

Referring to the provision of housing for the benefit of industrial workers under the Subsidised Industrial Housing Scheme of the Union Government, the Minister said considerable progress had been achieved in that sphere. Under the Second Plan, the Government had so far sanctioned 14 schemes, estimated to cost Rs. 41.19 lakhs. The expenditure till July 31 this year amounted to Rs. 21,65,777.

A conference of employers employing 1,000 workers and more and of employees held in April reviewed the progress made by private employers in pursuance of the

applied under them to provide houses for 12 lakhs 2000 of the workers within 12 months from September 1, 1958, and it was noted that there was practically no progress in the implementation of the earlier decision. It was decided to give another 12 months' time to the employers to furnish concrete details of the scheme they proposed to formulate.

UNION LEADERS TO EXCHANGE INDUSTRIAL RELATIONS IDEAS.

A three-man Labour Mission comprising eminent U.S. labour leaders who participated in the month-long showing of the U.S. Small Industries Exhibition at Madras, will confer with Indian Trade Unionists and Industrialists and will exchange information on labour management relations, collective bargaining, trade union structure and functions, role of trade unions, industrial safety, role of women in industry and other allied problems.

During their stay here they met representatives of Indian Trade Unions and management representatives in Madras and other cities. They visited also industrial plants to gain an understanding of labour management relations in this country.

Before arriving in Madras they visited New Delhi and met leading Indian Trade Union representatives and Government officials, including Mr. S. Guruswami, President of the All-India Railwaymen's Federation and Mr. G. I. Nanda, Minister of Planning, Labour and Employment. On arrival at Madras they met Mr. Anthony Pillai, President of the National Hind Mazdoor Sabha and Mr. C. Chatterjee, President of the Indian National Trade Union Congress.

The members of the Mission are Thomas H. Holleran, leader, John E. Cullerton and Harry H. Pollak.

ATOMIC STATION FOR SOUTH.

Bhabha outlines proposal of Commission.

BOMBAY UNIT TO GO INTO PRODUCTION IN 1961.

South India will have an atomic power station if a proposal made to this effect by the Atomic Energy Commission is approved by the Planning Commission.

According to Dr. H. J. Bhabha, the Rs. 55-crore power station to be located in Bombay State is expected to be completed in 1964.

INDO-AMERICAN TECHNICAL CO-OPERATION PROGRAMME.

The Indo-American Technical Co-operation Programme-Agreement No. 55 provides for up to 8 crores of rupees from India and \$ 746,632 from the U.S. for a joint project to develop small industries in India, as part of the Second Five-Year Plan.

Specifically the objective of Agreement No. 55 are :

To design and manufacture proto-types of small machines and pass them on to the

small scale industries for commercial manufacture.

To set up a common facility service workshop near an industrial estate for the benefit of all small industries in the area.

To demonstrate modern machines for the manufacture of large quantities of quality consumer goods.

To train a number of apprentices.

To accomplish these objectives, U.S. T.O.M. is providing six technical experts, basic machinery and other equipment and training facilities.

One production expert is scheduled to arrive soon in India to advise on planning and equipping a Pilot Production and Development Centre. The remaining five engineers will follow him to advise on design, development and production of machines. In addition they will advise on techniques in the production of consumer goods and spare parts. Such advice will then be published and circulated to other small industries in the whole country. The five experts will also train Indian engineers to take over these functions.

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VIEWS AND REVIEWS

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Views and Reviews

SALEM ALUMINIUM PLANT.

Minister's assurance.

"Every effort is being made to see that the proposed aluminium plant at Salem comes into operation very soon" said Mr. R. Venkataraman, Industries Minister, in the Legislative Council replying to a question of Mr. V. V. Ramaswami on September 14.

The report of the Italian expert, he added had been received, and it was now under examination by the Government. There was some difference of opinion about the quality of bauxite available in Salem. The Government therefore consulted the Italian expert.

The capital required for starting the plant was Rs. 10 crores. The Government was willing to give all possible aid to private industrialists who came forward to establish the Plant.

DEVELOPMENT PROJECTS.

Progress of work in Madras.

The progress of development projects in the Madras State and other problems facing it were discussed by the State Finance and Education Minister, Mr. C. Subramaniam, at a meeting with the Members of Parliament from Madras.

Mr. Subramaniam informed the members that steady progress was being maintained in the Neyveli Project while the Kundah Hydro-Electric Project had been completed very much ahead of schedule. In this connection, he referred to the progress of rural electrification and said that nearly 8,500 villages had been already electrified. Before the end of the year they hoped to bring in

700 more villages under electrification. The remaining 8,500 villages would have the amenity before the end of the Third Plan period.

In view of the fact that Madras State was still short of power supply, the Centre had been requested to locate the second atomic power plant in the State.

Regarding the aluminium plant at Salem, Mr. Subramaniam said that experts who analysed the quality and quantity of bauxite ore available at Salem had recommended that a plant of 10,000 tons capacity could be set up. But the immediate difficulty facing them was electric power. The Madras Government for their part were prepared to supply electricity at a concessional rate.

Members urged that as Madras State badly needed a small steel plant efforts should be made to explore the possibilities of establishing a low-shaft furnace plant. Regarding the setting up of a raw film factory at Ootacamund members were informed that as the negotiations with the East German Government had not been successful the Central Government was trying to have negotiations with Japan and other countries.

INDUSTRIAL DISPUTES.

Settlement out of Court.

NEED STRESSED AT TRIPARTITE TALKS.

Central organisations of employers and workers have agreed to advise their member-units to extend their full co-operation in ringing about out-of-court settlement of cases of industrial disputes pending in courts. They will impress upon their member-units the need for fully exploring the possibility of out-of-court settlement in regard to cases

where the monetary gain involved is insignificant or where only one or a few workers are concerned and no general principle of law or policy is involved.

This was agreed at a meeting of the Central Implementation and Evaluation Committee Delhi held on August 13 under the Chairmanship of the Union Labour Minister, Mr. Gulzarilal Nanda. The tripartite Committee which has been set up by the Labour Ministry, is concerned with the implementation and evaluation of labour laws, awards, agreements, etc.

The Committee discussed the question of constituting a tripartite machinery to scrutinise the appeals to courts arising out of industrial disputes. It was considered that it would not be practicable to set up a central committee for this purpose. On the other hand, it was felt that the parties themselves should scan cases and, if necessary, undertake a post-check of cases filed in courts.

The employers' and workers' organisations also agreed to advise their member-units to have greater recourse to mediation and voluntary arbitration for settling disputes. It was felt that matters of local interest, not having wider repercussions, should, as a general rule, be settled through arbitration. To facilitate arbitration, a panel of arbitrators should be drawn up in consultation with the State Governments, the State Implementation and Evaluation Committees and the central organisations of employers and workers. The list of arbitrators, already drawn up by the Labour Ministry in consultation with the State Governments, should be circulated to the employers' and workers' organisations.

The Committee felt that a meeting of representatives of employing Ministries should be convened to discuss questions relating to implementation of labour enactments, awards, etc., observance of the code of discipline and greater recourse to mediation and arbitration in the public sector.

INDUSTRIAL RELATIONS.

Minister stresses value of mutual discussions.

Mr. R. Venkataraman, Labour Minister, said the spirit of a healthy mutual relationship between management and labour was lacking in the country owing to apathy of the management and impatience of the workers to have discussions with each other.

This observation was made by the Minister, who has long been a labour leader, in his address to law apprentices under the auspices of the Bar Council at the Law College on August 26.

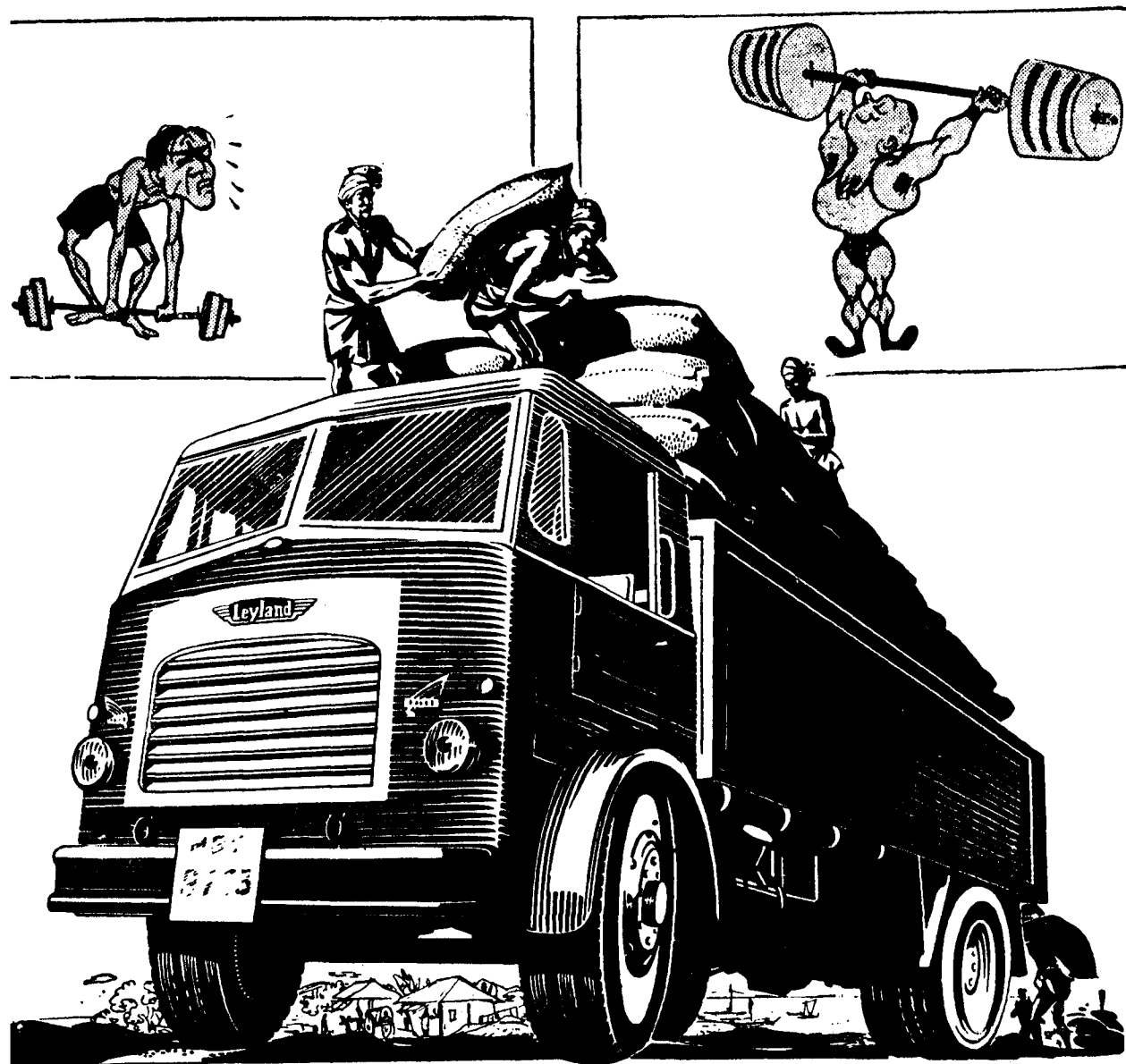
It was rather surprising, he said, that the conciliation machinery in India had not been as effective as it had been in the western Countries. Discussion between representatives of workers and employers was the requisite for the success of conciliation. Conciliation discussions after a dispute had started had not proved effective.

Industrial peace was of utmost importance for production, and the policy of industrial management should be one of firmness combined with flexibility resulting in a human approach. Experiments were now in progress to enable workers to participate in management of industries and such association should begin from the bottom and extend to the top.

Reports of experiments in running industries had shown that the scheme was proving a success. He said this new step in industrial relations would break the barrier between labour and management, do away with mutual suspicion and distrust and replace antagonism by co-operation and understanding.

IMPORT AND EXPORT

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Import and Export

IMPORT OF CARS BY TOURISTS.

Exemption from trade control.

The Government of India have decided to exempt cars, jeeps and station wagons imported by tourists under the 'Triptyque' system from import trade control restrictions. This is subject to the condition that the vehicles shall be re-exported within the period stipulated in the 'Triptyque' or 'Carnet de passage'.

This decision follows representations that considerable difficulty had often been felt in securing Customs clearance permits in advance for import of vehicles through the automobile associations.

Announcing the Government decision, an Import Trade Control Public Notice, published in a *Gazette of India* Extraordinary says that sale or retention of such vehicles in India in violation of the stipulated condition will entail penal action. Vehicles registered in the names of tourists will also not be allowed to be transferred to other parties in India.

EXPORT TRADE PROMOTION.

During the first half of the current calendar year, India's exports totalled Rs. 269.79 crores—Rs. 18.41 crores more than that of the corresponding period last year. This is despite the fall in the exports of tea in the first few months of the year—one of the country's traditional exports and a principal foreign exchange earner. The fall in tea exports is attributed to the accumulation of stocks in London—the principal buyer of Indian tea.

The export figures show that a number of measures taken by the Government to increase exports had started yielding results. But this performance falls short of that during the corresponding period in 1957 by Rs. 44.3 crores.

Despite drastic cuts in imports and the increase in exports, India continues to have an adverse balance of trade, which, during the first half of the current calendar year, amounted to Rs. 153.35 crores.

IMPORT OF COTTON.

The Union Government has decided to allow the import of 110,000 bales of cotton of staple length 1-3/16" and above. Out of this quantity, bales not exceeding 100,000 have been reserved for allotment to non-actual users and needy mills. The balance of 40,000 bales against this year's quota will be made available to such mills as may be prescribed hereafter.

The Union Government has decided to fix floor and ceiling prices for extra long staple cotton varieties excepting those having a staple length of over 1-1/8" says a Press Note issued in Delhi.

PROGRESSIVE RISE IN COAL PRODUCTION.

The collieries under the National Coal Development Corporation have now attained an annual production rate of 4,860,000 tons as indicated by the latest production figure.

This represents a progressive increase in the production of coal both from the old and new collieries.

GROUNDNUT OIL EXPORT.

Third quota to be granted.

The Government has further decided to grant a third quota of groundnut oil to those established shippers who have completed the shipments against current quotas.

It has also been decided to allow exports of $3\frac{1}{2}$ tons of groundnut oil cake (expeller) by established shippers of groundnut oil for every ton of groundnut oil exported by them till the end of October this year against contracts concluded during August/September.

Export of groundnut oil cake (Expeller) under the scheme will be allowed up to the end of November.

Export quota for groundnut oil.

The third quota of groundnut oil, to be granted to established shippers, will be equal to 15 per cent of their basic year exports after they have completed shipment of groundnut oil quotas including further allotments to which they are entitled.

Established shippers of groundnut oil are requested to report sales of the oil within 10 days, though they may produce the contracts thereafter.

IMPORT OF COPPER INGOTS.

The Government of India has decided to issue hereafter licences for import of copper ingots on weight basis under the export promotion scheme.

According to a Press Note issued in Bombay on 12th August 1959 by the Joint Chief Controller of Imports, the registered manufacturer-cum-exporter shall undertake to export within six months of the importation of licenced articles, finished goods equal to one ton in weight for every 1.05 tons of

materials licensed under this scheme. For this purpose only such exports against which foreign exchange in payment of the f.o.b. value of the goods exported has been received, will be taken into consideration.

IMPORT OF FRUITS.

New procedure for permits.

The Government of India has decided to issue permits for fresh fruit for value not exceeding Rs. 20,000 to approved Indian importers, whose exports up to July 21 this year, are less than 85 per cent but exceed 50 per cent of the value of their imports during 1958-59, on their giving an undertaking on a stamp paper of Rs. 3 that they will complete exports up to 85 per cent of the value of their imports during 1958-59 within three months.

Announcing this a trade notice, issued by the Joint Chief Controller of Imports and Exports, in Bombay on 31st August 1959 said: Those who fulfil the above conditions and those who have not already applied, are required to submit their applications in prescribed form and manner along with the required documentary evidence so as to reach his office on or before September 5.

Such permits will be made valid for despatch of fresh fruit from Afghanistan up to September 15.

IMPORTS FROM AFGHANISTAN.

The Government of India has decided to permit with effect from July 21 this year the import of fruit (dried and fresh), asafoetida, cumin seeds and medicinal herbs from Afghanistan on an *ad hoc* basis through approved importers. The category of approved importers will include those who have participated in the Indo-Afghan trade during the four years ending June 30, 1956, and have already registered as approved importers.

IMPORT QUOTA FOR MOTOR PARTS, BOOKS, RAW FILM INCREASED.

Policy for October-March.

SMALL INDUSTRIES TO GET SPECIAL ATTENTION.

Barring a few changes here and there, the import policy announced on 30th September 1959 for the next six months—October to March—is more or less the same as now being followed.

While quotas for the import of items like cables, pumps, bleaching powder and water meters on account of greater indigenous production have been reduced, import quotas for non-ferrous metals, including scrap, machinery spares, motor parts, and certain instruments have been increased.

Raw film import quotas have been increased from 60 to 66-2/3 per cent, and photographic negative and printing paper from 25 to 33-1/3 per cent.

An official spokesman said that in framing the new policy emphasis had been laid on the maintenance of economy, import of raw materials for industries and export promotion.

IMPORT BILL.

Under the new policy industrial production in the country would go up, but the import bill in the next six months would be the same as during the present licensing period. In the first six months of the current calendar year, India's import bill amounted to Rs. 416 crores. The country's Sterling balances now stand at about Rs. 180 crores—the same as during the corresponding period last year.

The spokesman said that in framing the new policy special attention had been paid to the requirements of small-scale industries. The quota of non-ferrous metals to be imported by established importers had been increased. But they were not free to sell

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them to anybody they liked. The distribution of these metals and the price to be charged for them would be controlled by the Government.

Books.

The spokesman added that under the new policy, import of books—text-books and technical books—would be liberalised, hides and skins could be imported under Open General Licence from Afghanistan apart from Pakistan, and the Open General Licence for the import of certain items from Pakistan was being extended.

As regards newsprint, he said the present import policy would continue, but the availability of newsprint would be better. Some newspapers were likely to get more newsprint as the allotment of newsprint would be on the basis of the circulation so far during the current calendar year.

Under the new policy the quota for drugs and medicines has been reduced, but additional licensing has been provided for certain medicinal items, with the result that the overall foreign exchange provision for drugs and medicines remains unaltered. There would be increased supplies of some essential items.

For a dozen items, like printing machinery, mercury, electric carbons and certain paper items, an interim policy has been announced. The imports of these items may be liberalised later during the October-March period, and an announcement would be made in this regard by the middle of November. Due to the present foreign exchange shortage it is not possible to allow the import of all the printing machinery required.

CAPITAL GOODS.

As regards the import of capital goods, import licences will be granted against earmarked exports. The Union Government intends to issue licences for importing

equipment if it is financed from the sale proceeds of additional exports of a promotional nature. The import of capital goods from Dollar areas has now become easier because of the loan granted by the U.S. Export-Import Bank.

MANGANESE ORE EXPORTS.

Full facilities to be given.

The Government of India has included a number of measures to maintain and extend the export of manganese ore from the country in its export policy for manganese ore for the year ending September 30, 1960.

Firms and parties whose individual allotments are small, have been advised to form co-operatives or limited companies, and it has been decided that where the total of the individual allotments of the firms and parties joining a particular co-operative or company aggregates to 25,000 tons, a bonus allotment of 20 per cent of the total will be given to the company or co-operative concerned.

Established shippers and mine-owner exporters and the State Trading Corporation will be given an allotment of quota for a quantity equal to the quota for 1957-58.

Directive to S.T.C.

The Government has directed the State Trading Corporation according to a Commerce and Industry Ministry Press Note, to co-ordinate its activities with those of experienced exporters and to evolve, in co-operation

with them, as its business associates, marketing and production programmes extending over three to five years in an effort to take full advantage of such business opportunities as may present themselves, and to develop enduring relationship with leading users and importers of manganese ore.

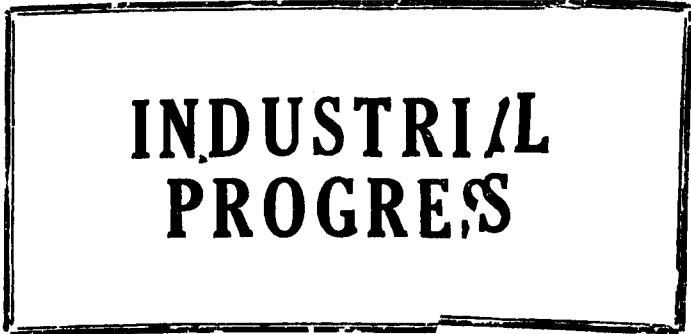
The Government proposes to give full facilities for the due performance of overseas contracts entered into by the State Trading Corporation, or its business associates, in pursuance of such co-operative marketing programmes.

The Government of India, the Commerce and Industry Ministry Press Note says, has been concerned about the continuing decline in the export of manganese ore, which seems to have been largely due to continuous sluggishness in the ore markets of the world.

ALLOTMENT OF STEEL.

Mr. R. Venkataramanan, Minister for Industries, stated in the Legislative Council on 12th September 1959 that in response to a representation from the State Government the allotment of steel to this State had been recently increased to some extent. A total of 22,895 tons of iron was allotted for 1958-59 as against the demand of about 50,500 tons. The allotment had been increased in respect of the non-agricultural quota from 1,816 tons for the third quarter of the year to 6,318 tons.

Replying to supplementaries, the Minister said it was not proposed to prefer any class or individual users in the distribution of the limited quantity allotted.



**INDUSTRIAL
PROGRESS**

Industrial Progress

CO-ORDINATION OF INDUSTRIES.

Japanese Team's suggestion.

Mr. T. Iwatake, leader of the five-member Japanese team on small industries, now touring India, suggested that there should be full co-ordination between the large, medium and small industries in India, by means of a proper mechanism, so as to help derive mutual benefit.

Mr. Iwatake, who was replying to questions at a reception organised by the Madras Chamber of Small Industries at Woodlands, Mylapore, said that the Indian small industrialists could devote more attention in utilising their indigenous raw material with the aid of modern machinery and thus offer quality goods at competitive rates.

Mr. Iwatake pointed out that the situation in respect of small industries both in India and Japan was similar. But the important basic factor for the prosperity of small industrialists was the "spirit of enterprise". It should be their endeavour to stand on their own legs for the development of their business.

In India, the leader of the team said, the large scale, the medium and the small industries worked in isolation. In Japan, the financial aid to small industries was given, by way of loans, to the extent of nearly 90 per cent, by the commercial banks while the remaining ten per cent was obtained through the Government channel. Statistical information was collected at all levels in all industries and hence they had pretty reliable data about the manufacturing details. The Government of Japan as well as the small industrialists were keen on maintaining quality and hence the system of "quality control" was well-developed. The Japanese

small industries were also well-organised into co-operatives and nearly 50 per cent of the total small industrialists were members of the co-operative movement. The Japanese industrial co-operatives were something akin to the Hrade Associations. There was no specific demarcation in the cities in regard to industrial and residential areas because the industrialisation in Japan had a long history and it was spontaneous. There was a wide gap between the minimum and maximum wage rates (for labour) but the definition of "small industry" in Japan was different from that in India. The Minimum Wage Act recently adopted by Parliament there, was to be put into effect soon. However, on a rough calculation, the minimum wage for the youngest and the most inexperienced worker might be around Rs. 75 a month. The maximum might touch Rs. 500 a month.

Earlier in the day, the Japanese team visited the Industrial Estate in Guindy and met the representatives of the Manufacturers' Association there. In the afternoon, the delegation had discussion with the members of the Small-Scale Industries Association and later went round the Government Sales Emporium in Mount Road, the Government Footwear Unit, Perambur, the Handloom Weavers' Co-operative Society, Egmore, the State Co-operative Bank and the Madras Industrial Finance Corporation.

STEEL PLANT FOR SALEM ORES HINGES ON NEYVELI LIGNITE.

Sardar Swaran Singh, Minister of Steel, Mines and Fuel said in the Lok Sabha in a written reply to Mr. S. R. Arumugham that the question of setting up an iron and steel plant based on the ores of Salem could be considered only if coke from Neyveli lignite proved suitable for smelting these ores.

Fertiliser Plant.

The fertiliser plant to be set up by the Neyveli Lignite Corporation is likely to go into production by the end of 1962, according to the Minister.

The Minister, who was answering several questions by Messrs. K. T. K. Tangamani, N. R. M. Swamy, S. C. Samanta and R. Ramanathan Chettiar, said that the estimated cost of the plant would be Rs. 25 crores.

The corporation was now examining the tenders received for the supply of the plant and it would take some weeks before a final decision was taken.

Sardar Swaran Singh said that the tenders contained several deferred payment offers. It was only after a final decision was taken on the acceptance of the tenders that it would be possible to give a complete picture about the offers.

Asked whether the scrutiny of the tenders would be completed soon so that orders could be placed for the plant and work started, the Minister replied that several technical aspects of a complicated chemical plant were involved and it entailed a good deal of examination. "But I am assured," he said, "that the Corporation is at the very final stages of scrutiny and it should not take now long before orders are placed."

PRODUCTION OF CALCIUM CARBIDE IN SOUTH INDIA.

Research at Karaikudi brightens prospects.

Prospects for setting up a calcium carbide industry in South India, which has rich deposits of crystalline limestone, have been heightened following investigations in the use of the mineral conducted at the Central Electro-chemical Research Institute at Karaikudi in Madras State.

The current annual production of calcium carbide is 5,000 tons. But the product is below the average quality of the imported material. The process developed at the Karaikudi Institute, consisting of heating a charge of unburnt crystalline limestone, charcoal and petroleum coke in a three-phase arc, has now made it possible to produce "A" grade carbide in the country. The annual rated capacity of the industry is to be raised to 40,000 tons by 1960-61.

Calcium carbide is the main source of acetylene, used as a heat source for welding and cutting of metal and is the basis of synthetic organic chemicals. The material is also utilized in the production of cyanamide—a good fertiliser and the starting material for the production of synthetic resins.

CRYSTALLINE LIMESTONE DEPOSITS.

Large quantities of crystalline limestone are available in Tirunelveli and Salem districts, and are already being exploited by the cement and alkali-chloride industries.

The results of investigations on the utilisation of crystalline limestone for the production of calcium carbide in South India are disclosed in the July issue of the Journal of Scientific and Industrial Research published by the Council of Scientific and Industrial Research.

Another notable feature of the Journal is an article, representing first in the series, concerning studies of Nahorkatiya petroleum crudes carried out at the Central Fuel Research Institute, Bihar. Exploratory surveys have proved promising new oil finds at Nahorkatiya in the Upper Brahmaputra valley in Assam where 23 of the 25 wells drilled had struck oil.

The full utilisation of these petroleum crudes and their processing to various end-products is a subject of major importance in the context of the rapidly developing economy of the country. Through an analytical

study of the data on the evaluation of these crudes, it has been established that the crudes can be cracked into gasoline, kerosene and white spirit, diesel oil and gas oil, lubricating oil, petroleum waxes and fuel oil.

The comparison of the phara-macognostic characters of Indian and Pakistani "Senega" used in medicine as expectorant is yet another interesting subject dealt with in the Journal. The study of Indian and Pakistani products has shown that "andra-chne aspera" is the source of the drugs which are not suitable substitutes for the true "senega" obtained from "polygala senega."

MANUFACTURE OF SMALL CARS.

Replying to a question by Mr. S. A. Mehdi on the manufacture of small cars, Mr. Manubhai Shah, Minister for Industry, said in the Lok Sabha, Delhi that 4,311 small cars were produced in the country during the first six months of 1959.

The Minister added that the production in the latter half of the year was expected to improve considerably as sufficient foreign exchange for the import of components and raw materials needed for indigenous manufacture had been released.

It was estimated that the production for the whole year might reach 12,000 Nos., the Minister said.

PLAN FOR CAUSTIC SODA FACTORY.

An application for starting a caustic soda factory in Kovilam near Madras by a private party has been received by the Government of Madras. This was disclosed at the Chingleput District Planning Board which met at the Saidapet Collectorate on August 14. Mr. K. Diraviyam, Collector, presided.

This quarterly meeting reviewed and discussed the progress made in the implementation of the schemes under the Second Plan. A suggestion was put forward that an agricultural implements manufacturing unit might be located in the district to cater to the needs of the ryots. It was stated that the opening of three primary health centres during this year had been sanctioned. Rural Family Planning clinics would be started at the Government dispensary in Poondi and at the Police Hospital in St. Thomas Mount. The schemes for cashew plantation and for the expansion of planting activities of valuable commercial timbers were being undertaken according to schedule. Under the desilting-cum-reclamation project, fourteen works amounting to nearly rupees three lakhs had been approved. The officer concerned explained certain difficulties in going ahead with these works.

A member said there should be greater facilities for crossing the Buckingham Canal, if possible by putting up footbridges, because at present there were only two bridges beyond Adyar and near Sadras. He opined that as the canal served no useful purpose at this part in the present day, it could be filled up.

INSTRUMENT INDUSTRY.

Plan for Proto-type Centre at Guindy.

A "valuable" French offer had been received for setting up a proto-type centre for instrument industry and this was proposed to be established in the Industrial Estate, Guindy, Madras, the Minister of Industry, Mr. Manubhai Shah, said in the Lok Sabha on August 20.

Replying to Mr. Osman Ali Khan, the Minister said that Government wanted to see that a full-fledged proto-type centre was established in every State with the help of foreign collaboration, in the Third Plan.

Earlier, Mr. Shah, said that the Andhra Pradesh Government desired that a prototype centre, similar to that being set up by the Government of India, at Okhla (Delhi) and other places, be established in Andhra Pradesh. Such centres were being established with foreign assistance. Therefore the Andhra Pradesh Government had been informed that their proposal would be given due consideration when a firm offer of foreign assistance was received.

HOTEL INDUSTRY IN INDIA.

Financial aid by way of loans.

GOVERNMENT ACCEPT MAIN RECOMMENDATIONS.

The Government of India have accepted the recommendations of the Hotel Standards and Rate Structure Committee that "the hotel industry should, by and large, be left to private enterprise, but where the private sector is unable or unwilling to fill the gap, Government should step in."

The Government's decisions on the principal recommendations of the Committee have been announced in the form of a resolution.

Hotels catering to foreign tourists would be classified according to the internationally understood "Star" system. The Committee had recommended that hotels in India should be classified into five categories under the "Star" system after giving sufficient time to hoteliers to improve their standards before classification is actually introduced. In order to give the hotels adequate time, Government have decided that a three-man committee, to be known as the Hotel Classification Committee, would be set up by June, 1960, so that by the end of 1960 they could complete inspection and classification of these hotels.

The Committee had recommended that the hotel industry should be recognized under

the Five-Year Plan and given financial assistance by the State corporations and banks and that a Government fund of Rs. 10 crores should be created for the purpose of financing loans to deserving hoteliers. The Government are of the view that in order to enable the hotel industry, which plays an important part in the development of tourism in India and in the earning of foreign exchange, all reasonable financial assistance by way of loans should be given to hoteliers both for starting new establishments as well as for improving the standards of existing hotels.

Government have, therefore, decided to take steps to make hotels eligible for getting loans from finance corporations established by Acts of Parliament or other credit corporations. It is not considered feasible at the present stage to create a separate fund directly under Government control for this purpose.

On the question of foreign investment in Indian hotels, the Government of India have decided that where there are clear and obvious advantages in permitting foreign collaboration in the setting up of any hotel, the Government would permit such collaboration provided that foreign capital does not ordinarily exceed 49 per cent of the total capital invested in any venture. Government will, of course, have to examine each case on its merits.

PROHIBITION.

On the question of Prohibition, the Government of India have already endeavoured to meet all reasonable needs of foreign tourists in obtaining drinks. Within the broad policy of Prohibition and the existing framework of law on this subject in the various States, relaxations to the extent considered reasonable have been, and will be, allowed.

The resolution also expresses the Government of India's agreement with the recommendation that the rate control on hotel rates as at present imposed in Bombay and elsewhere should be withdrawn. The Government of India would therefore urge the State Governments concerned to consider modification of the laws on the subject.

RATE STRUCTURE.

The rate structure in hotels, according to the Government resolution, should be governed by the widely accepted Hubbart formula with slight modifications to suit Indian conditions.

Another suggestion made by the Committee was that the hotel industry should be given direct import licences for essential equipment and provisions to enable it to maintain proper standards of hotel keeping. The Committee had further suggested that with a view to attracting more tourists in the summer and to spread out tourist arrivals throughout the year, hotels should be encouraged to air-condition private as well as public rooms and that Government assistance and facilities for the import of necessary equipment should be given. The Government of India have accepted these suggestions. The resolution points out that necessary assistance is already being given to the hotel industry for this purpose.

Among other suggestions of the Committee it had been recommended that since the hotel industry was a highly specialised industry, interests like the jewellery and silk trade, whose main motive is to attract customers for the purpose of selling their wares at high and exorbitant prices should not be allowed in this field. In their resolution, the Government of India state that since the

number of people who are exclusively hoteliers is extremely small in this country and since the hotel industry has to attract capital from every available source in order to meet the needs of the ever-expanding tourist traffic, it may not be advisable to close the doors to financiers other than hoteliers who are interested in investing in this industry. However, steps will be taken to check all mal-practices in the hotel industry and particularly for preventing interlocking arrangements between hoteliering and shopkeeping.

HOTEL TRAINING SCHOOL.

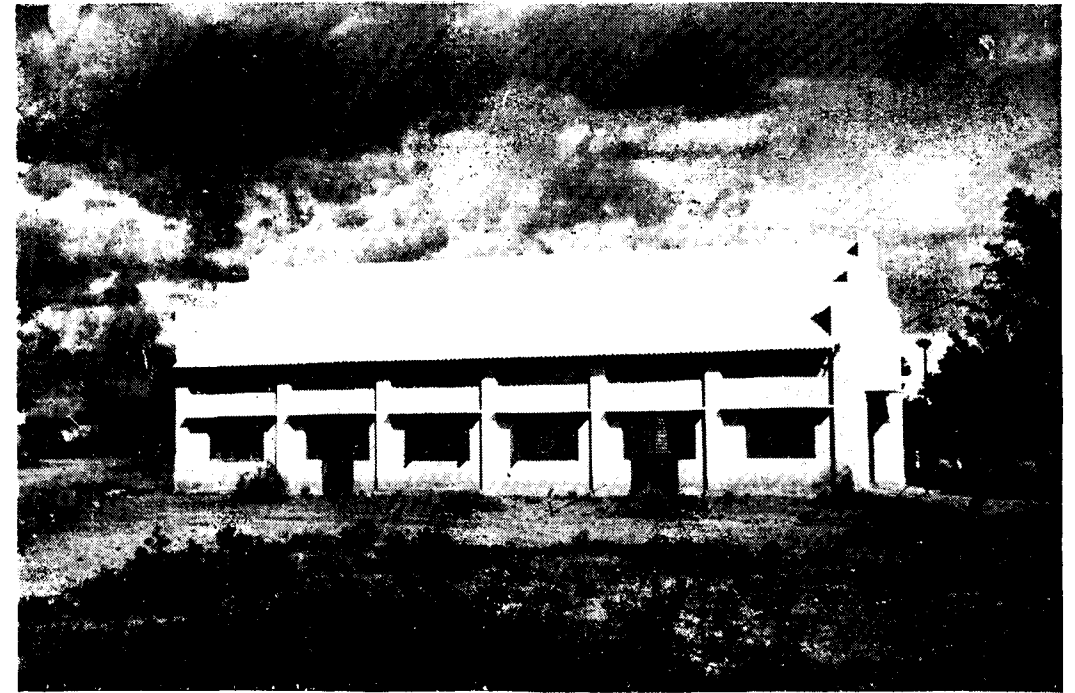
Government have also accepted the recommendation regarding the opening of craft and managerial hotel training schools. Efforts will be made to open a first-class hotel training school as early as possible. Encouragement will also be given to schools which are already in existence and are doing useful work in the field.

The Committee had suggested that a common fund should be created for the hotel industry which should be augmented by the levy of a 2 per cent surcharge on all hotel bills. Government have taken note of this recommendation and in view of the possibilities it offers for assistance to and improvement of hotels, will examine the proposal in consultation with the authorities concerned.

Government have also accepted the recommendation for introducing suitable legislation covering all relevant aspects of the hotel industry.

The resolution refers to other recommendations of the Committee which are of a general and minor nature and have been noted for dealing with the day-to-day hotel problems.

MODEL FOOTWEAR AND LEATHER GOODS MANUFACTURING UNIT—ERODE.



T.C.J.A

PHONE: 189

WOOD

TEL: SRIKRISHNA

S. K. INDUSTRIES

WOOD, LATHE AND CASTING WORKS

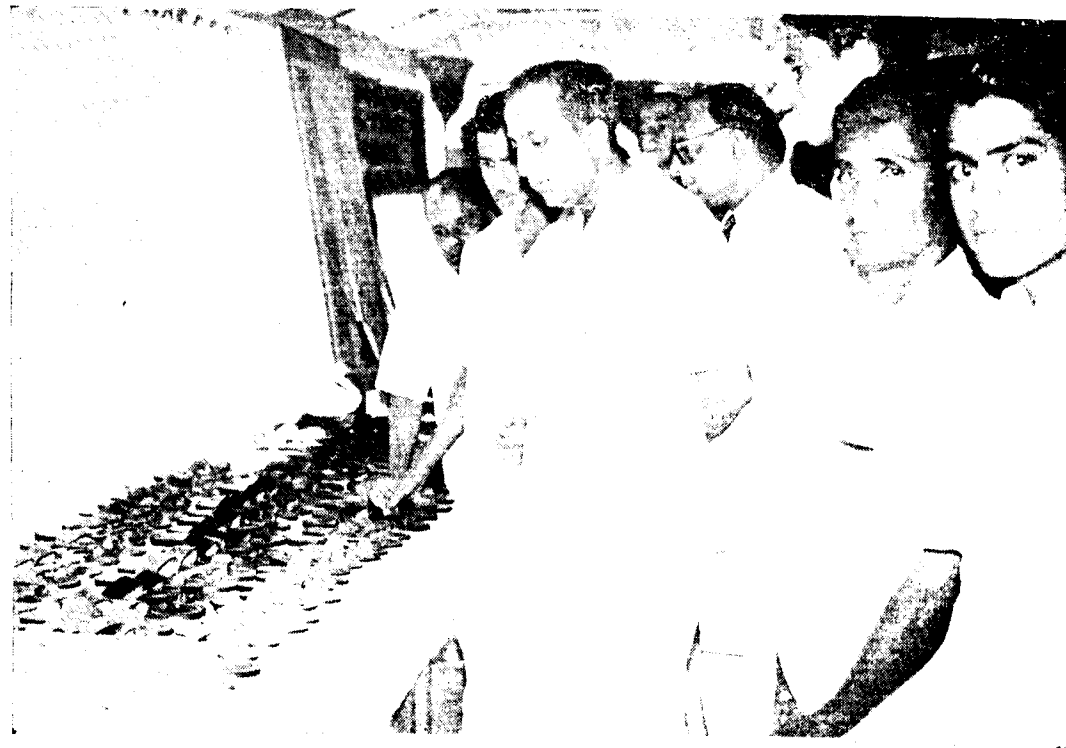
Producers of fine Burma Teak Wood, Electric Appliances
as Fillets, Boxes, Etc.

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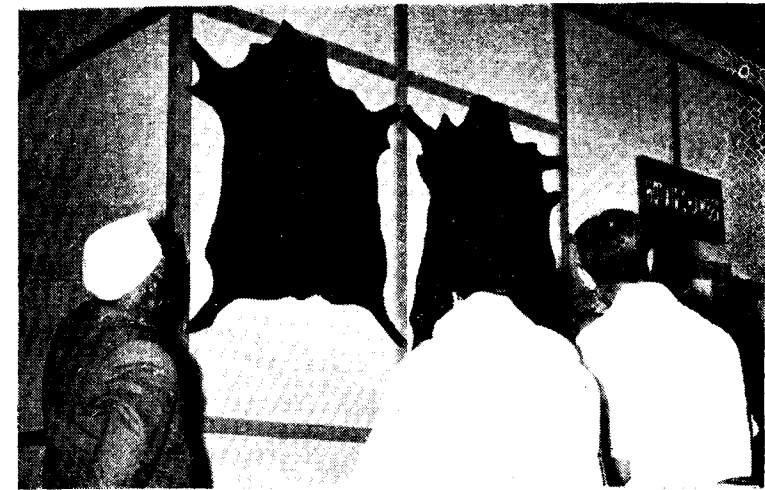
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MADURAI

MODEL FOOTWEAR AND LEATHER GOODS MANUFACTURING UNIT—ERODE.



THE MODEL FOOTWEAR AND LEATHER GOODS MANUFACTURING UNIT—ERODE.



The Ministers of Mysore inspecting the various varieties of finished leathers.



The Minister for Co-operation, Mysore, examining a piece of willow made at the Unit.

THE MODEL FOOTWEAR AND LEATHER GOODS MANUFACTURING
UNIT, ERODE.



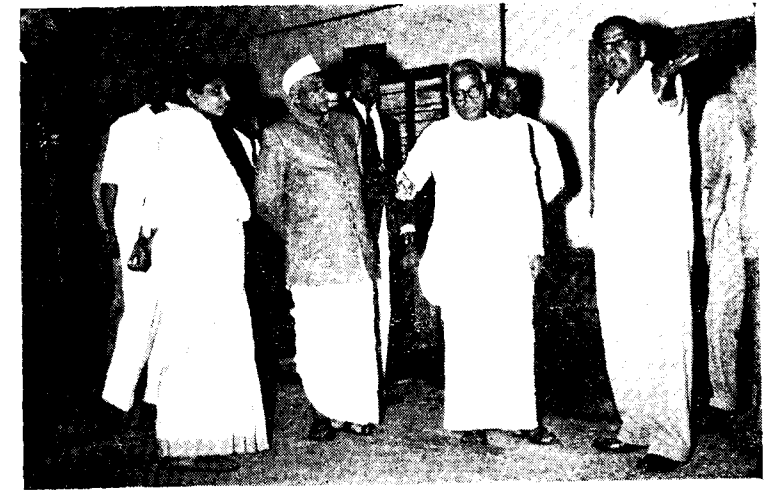
The Home Minister, Madras, Minister for Co-operation, Mysore and Deputy Minister for Rural Industries, watching the working of the Banachula splitting machine.



The Ministers watching the working of the Rolling machine.

**DEPARTMENTAL
NEWS**

THE MODEL FOOTWEAR AND LEATHER GOODS MANUFACTURING
UNIT—ERODE.



The Ministers watching the working of the Chrome Tanning Drums.



The Ministers watching the working of the Embossing machine.

THE MODEL FOOTWEAR AND LEATHER GOODS MANUFACTURING
CENTRE—ERODE.



Minister watching the working of the glazing machine.
INDUSTRIAL ESTATE—GUINDY.



Meeting of the Members of the Parliament at the Technical Information Section,
Industrial Estate, Guindy.

INTER-STATE JOINT DRUGGET INDUSTRY ADVISORY BOARD 15TH MEETING HELD
AT WOOL PROCESSING CENTRE—VINNAMANGALAM.



The Ministers and members of the Joint Drugget Industry Advisory Board observing the working
of the self-acting Teazer, one of the machines erected at the Centre.



Minister discussing with the staff of the Wool Processing Centre and the Department, the
working of the Unit.



A view of the 15th meeting of the Drugget Board discussing matters connected with the administration and working of the Centre.



Chairman with the Mysore Minister and Deputy Minister at the Board Meeting.

Departmental News

THE MODEL FOOTWEAR AND LEATHER GOODS MANUFACTURING UNIT, ERODE.

The Model Footwear and Leather Goods Unit, Erode, is one of the important training centres under the programme of the Development of Cottage and Small-Scale Industries in the Lower Bhavani Pilot Project area, by the Government of Madras for training cobblers in the improved methods of footwear manufacture. The unit is run departmentally in the first instance and later on it will be converted into an Industrial Co-operative Society. The object of the scheme is to train persons in the improved methods of leather goods manufacture by using modern machines and make their services available to the country for up-grading the quality of footwear. The scheme provides for training 12 persons at a time for a period of one year, on a monthly stipend of Rs. 25 each.

There are a good number of Leather Tanneries in and around Erode. Being a big tanning Centre in South India, Erode is best suited for the trade of manufacturing leather goods. Another encouraging factor for locating the unit at Erode is the establishment of a leather finishing Centre by the Government of India at B.P. Agraharam adjoining Erode where a good number of tanners are working. The tanned skins are converted into finished leather with beautiful colours and attractive designs, quite suitable for the manufacture of high class leather goods. It can easily be said that all the required facilities for the development of leather Industry are available in and around Erode. There is therefore full justification in establishing the training centre in Leather Goods manufacture at Erode as it is the best centre in the whole of South India.

The unit is situated just at the outskirts of Erode Municipal Town on the Erode-Coimbatore Road. A nice building has been constructed at a cost of about Rs. 25,000 for the running of the unit.

The unit is under the administrative charge of the Community Project Officer (Industries), Erode. The present establishment consists of one Superintendent, one Instructor, one Accountant and one Lower Division Clerk-cum-Typist besides a watchman and peon.

Machineries worth about Rs. 11,000 have been installed in the Unit. Machines for skiving, finishing and stitching are interesting and very useful for the quick production of Footwear. In addition, an embossing and stamping press has also been erected. The trainees though new to the mechanism in the first instance pick up the working of the machines very quickly. They take it as a great pleasure to learn the work and in a couple of months, they become conversant with the working of the machines. On the completion of the training, the trainees will be persuaded to form themselves into a co-operative society for the manufacture of leather goods and loans and subsidy will be sanctioned for running the society efficiently.

The unit started functioning on 16th June 1958. About 250 pairs of chappals are produced in the unit every month. All sizes required for gents, ladies and children are manufactured here. About 1,400 pairs of chappals were manufactured till now and out of this stock, about 500 pairs have been sold. There is fairly good demand for the finished goods of the unit. A sales depot has been opened in the office of the Community Project Officer (Industries), Erode, for marketing the finished goods. There are

also approved dealers for selling these products. Stalls for the sale and advertisement of the goods produced are also arranged in the exhibitions conducted by Block Development Officers in important fairs and festivals and all possible publicity is being given.

The training given to the cobblers in the improved methods of Footwear production will give them good proficiency in the work and in the course of time, they will be assets to the country. Articles of good finish at cheap price may be expected in the market. The Industry is bound to thrive well and give good employment to the cobblers residing in and around Erode Town.

1. Ranging and Skiving Machine.

This is a very handy machine specially in the manufacture of Shoe-industry. It is Frohana made German machine. This is a very compact machine where two operations could be done, namely, ranging and skiving. With the help of the ranging knife, the upper or bottom leather could be cut to the required shape by running the knife on the pencil mark, marked on the leather. The knife rotates towards the operator whereas the tooth wheel which pushes the leather rotates in the opposite direction that of the knife. The handle is rotated away from the operator. The knife is placed vertically. The skiving knife is placed horizontally and a toothed roller pushes the leather to be skived. Only thick leather could be skived with this knife. It is otherwise known as stiffner skiver. The skiving knife could be adjusted at different angles to obtain the required slope by the operator by mere adjustment of screws. The skiver is mainly used for skiving counter pieces and top-caps.

2. Splitting Machine.

This is a small machine which does not occupy much space. The maker's name is Fenda. This is made in Germany. The

blade is kept horizontally between two rollers. The top roller is a smooth one and the bottom is a toothed one. The bottom roller keeps the leather to be pushed in for operation. There is a scale attached in front of the machine just above the rollers. The scale denotes the thickness of the leather to which it will be split. There is a screw on top which helps the operator to raise or lower the pointer to be kept at a particular number to which the leather is to be split. The scale gives the reading in m.m. The maximum thickness of the leather which could be operated is 7 m.m. in this machine. The maximum width of the leather which could be operated on this machine is 150 m.m. There are two springs kept horizontally at either ends and when the top screw is turned clock-wise. The springs are pressed down as a result the distance between the roller and the knife is reduced and the leather to be split is thin. With the help of this machine accurate work could be carried out in the manufacture of footwear. For instance if the bottom sole is uneven it could be accurately levelled to a particular thickness. With the help of this machine the work is carried out in a short time and with great accuracy.

3. Sole stitching.

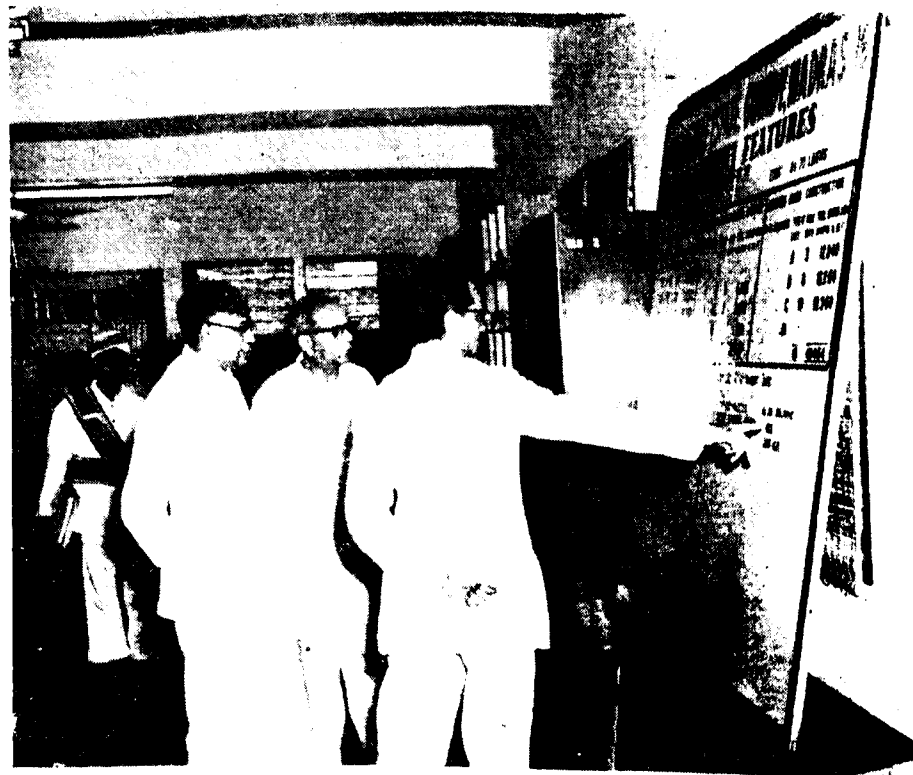
This is a German machine which could be operated both by hand or by motor. One particular thing to be noted in this machine is that it does two operations at the same time, i.e., channelling and stitching. It has got a bent needle unlike other machines. The mechanism is very intricate though it looks very simple. For every operation there is an adjustment. For instance the pressure head could be adjusted with the help of a screw in front, so that it holds the chappal soles or a shoe by pulling the ball lever towards the operator. The channel knife could also be adjusted. Further, there is a screw kept to adjust the stitching. In this machine the working of the bobbin could be seen, since it is kept in position by

INDUSTRIAL ESTATE GUINDY.



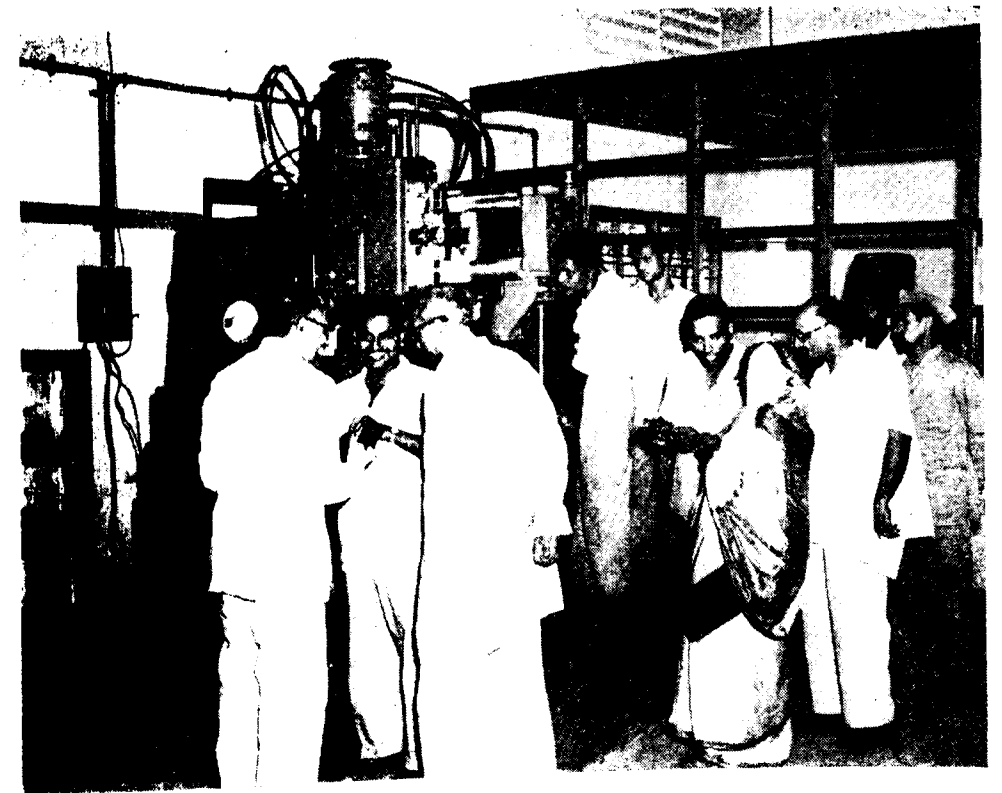
Members of the Parliament inspecting the exhibits at the Exhibition Hall, Industrial Estate, Guindy.

INDUSTRIAL ESTATE GUINDY.



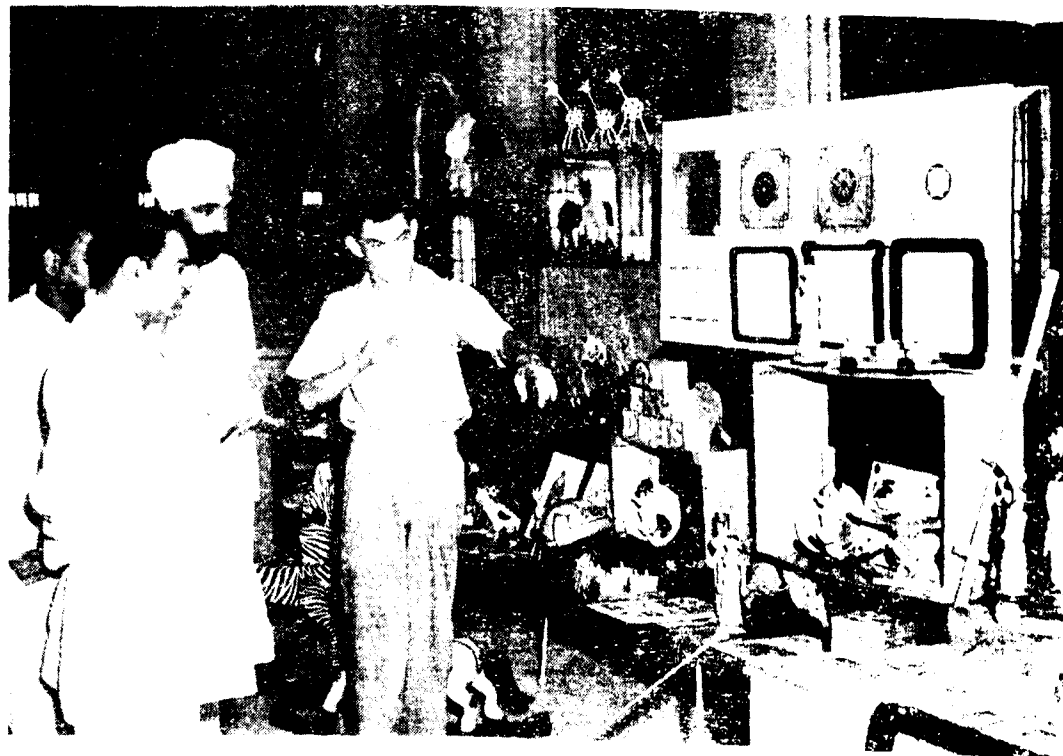
Member of the Planning Commission (Industry), New Delhi and Minister for Industry (Madras) discussing with the Director at the Technical Information Section, Industrial Estate, Guindy.

INDUSTRIAL ESTATE GUINDY.



Members of the Planning Commission (Industry), New Delhi, visiting the Industrial Estate, Guindy.

INDUSTRIAL ESTATE GUINDY.



Members of the Southern Zone Estimate Committee visiting The Industrial Estate, Guinda.

INDUSTRIAL ESTATE GUINDY.



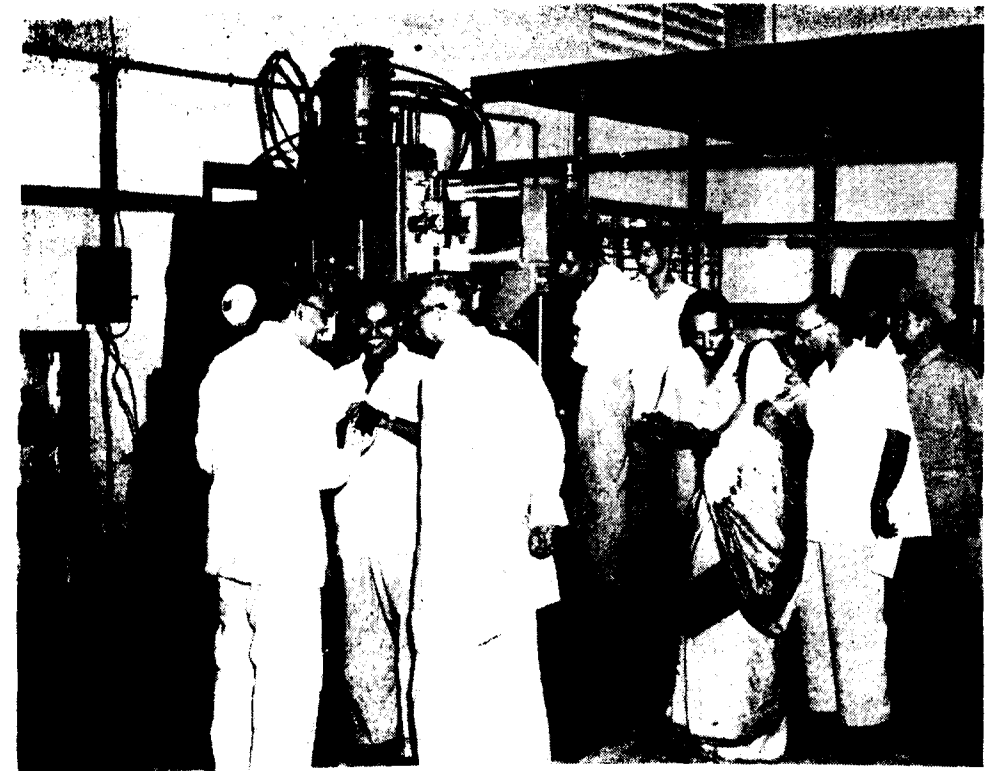
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INDUSTRIAL ESTATE - GUINDY.



Member of the Planning Commission (Industry), New Delhi and Minister for Industry (Madras) discussing with the Director at the Technical Information Section, Industrial Estate, Guindy.

INDUSTRIAL ESTATE - GUINDY.



Members of the Planning Commission (Industry), New Delhi, visiting the Industrial Estate, Guindy.

the front plate. The operator should always bear in mind that he should use the same number needle as the one used in the front plate.

4. Gimping Machine.

This is also a German machine mainly used for cutting leather with fancy edges. The cutter is made of hard steel. The cutters could be changed at any time according to the design. There is a roller on which the leather to be cut rests. It is made of a special composition known as Okin. The pressure could be adjusted by means of a screw in front below the roller. One peculiar thing to be observed by the operator is that, to operate this machine he should rotate the handle towards him.

5. Finishing Machine.

This German machine has a great advantage where four persons can work at a time. This is an important machine especially in footwear. For this machine there are two motors. One with h.p. of 1.5 and another 0.05 h.p. motor separately attached for bottom buffing. This is fixed above the main shaft which runs horizontally. To the main shaft are attached three buffing wheels, two leather burnishing wheels. Rounding wings of different sizes and two brushes, one for black and the other for colours, there is a cutter at the left end of the machine which can be engaged pulling the ball-lever which is attached to a rubber belt which engages the pulley. There are two exhaust fans which helps the dust to be collected in the dust collector kept at the bottom of the machine. This also helps the operators to work without any difficulty. There is a special lever kept to engage the exhaust fan. The main shaft rotates towards the operator. This machine gives perfect results to manufacture quality footwear.

6. Skiving Machine.

The maker's name is "Fortuna" made in Germany. With the help of this machine, one is able to thin the leather which helps easy bedding. The leather could be skived at different slopes as desired by mere adjustment of the foot guide with the help of a screw kept on top next to the foot guide lever. The bell-shaped knife which is very sharp is attached to the main shaft and rotates away from the operator. While the operation is carried on, the knife could be sharpened with the help of the Emery wheel. There is a margin guide which help the leather to be skived to the required width.

7. Singer Sewing Machine.

One machine is a flat bed 31-K-48 and the other is a left wing sewing machine. In both the machines the operation can obtain accurate stitching.

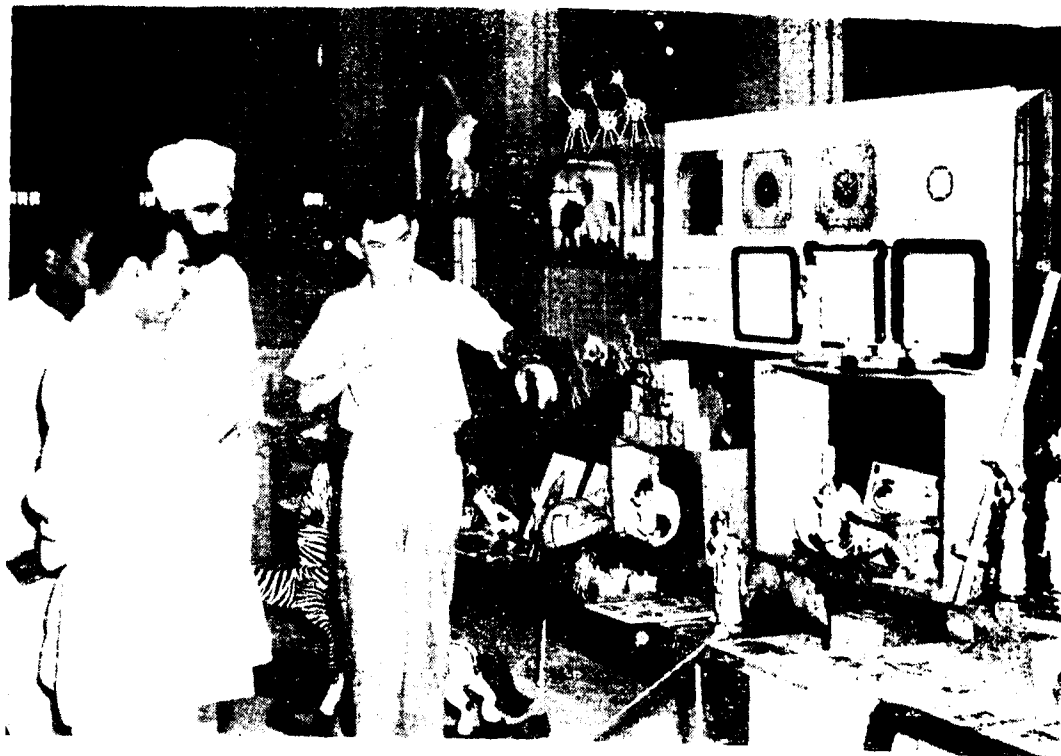
8. Gold Embossing Machine.

This is a very useful machine for the manufacture of Gold and Silver leather for chappal uppers. This machine is made in Germany. It has a heating element worked by electricity and the temperature could be regulated by means of a nob attached to the temperature meter. Different designs could be obtained by using different dyes. We also require gold and silver foils as the case may be. With the help of this machine an ordinary leather is converted into gold and silver embossed leather.

Financial details about the establishment of the Unit are furnished below :—

	RS.	NP.
Grant	...	8,433.00
Loan	...	73,864.00
Cost of buildings	...	23,506.70
Cost of machinery	...	10,862.38

INDUSTRIAL ESTATE, GUINDA.



Members of the Southern Zone Education Committee visiting the Industrial Estate, Guinda.

Other expenditure—

Recurring and Non- Rs. 49,580.73
recurring.

Number of pairs of 1,536 pairs.
chappals, etc., pro-
duced.

Number of pairs of Rs. 9,075.30
value of the above.

Number sold so far .. 522 pairs.

Number value .. Rs. 3,083.70

INTER-STATE JOINT DRUGGET INDUSTRY ADVISORY BOARD.

The Fifteenth Meeting of the Inter-State Joint Drugget Industry Advisory Board was held at Government Wool Processing

Centre at Vinnamangalam, North Arcot district, on 4th July 1959. Sri M. Bhakthavatsalam, Home Minister, Madras State, Chairman, presided. Sri M. Mariappa, Minister for Industries and Co-operation, Mysore, Srimathi L. Magadi, Deputy Minister for Cottage Industries, Mysore State, the Director of Industries and Commerce, Madras, and Joint-Director, Rural Industrialisation, Mysore, and the other members of the Board from Madras and Mysore State attended the meeting. Earlier the Director of Industries and Commerce, Madras, took the Ministers and the members round the wool processing centre and showed them the processing of Tannery Lime Wool and the dyeing of loose wool with fast colours.

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INDUSTRIAL ESTATE GUINDY.



Members of the Southern Zone Estimate Committee inspecting the gardens in the Industrial Estate.



Inauguration of the State Bank of India, Industrial Estate, Guindy.



The State Bank of India Building, Industrial Estate, Guindy.

**QUARTERLY PROGRESS REPORT
OF ACTIVITIES AND ACHIEVEMENTS IN RESPECT OF SERVICE-
CUM-TRAINING CENTRE FOR
TANNING AND FINISHING OF
LEATHER, VINNAMANGALAM
(AMBUR), FOR THE QUARTER
ENDING 30TH JUNE 1959.**

The Unit has commenced its production from April 1959 and manufactured the following leathers to the value of Rs. 1,682.00 so far :—

- (i) Sole leather.
- (ii) Box and willow leathers.
- (iii) Fancy goats (in various colours).
- (iv) Suedes.
- (v) Semi-chrome glaze kids.

As some difficulty was experienced in the beginning in finding out suitable places for the purchase of raw hides and other chemicals required for the unit, increased production could not be shown during the quarter.

As necessary arrangements have been made now for the purchase of required raw materials and chemicals, the Unit will go into full production during the next quarter and show better progress and achievements.

In addition to the production, the Unit will undertake during the next quarter :—

- (i) storage of raw hides and skins from private parties at nominal rents; and
- (ii) provide facilities for bark Tanning by private tanners under departmental supervision and guidance.

The finished products will be sold to the private parties at nominal rates. The departmental foot-wear units set up under the Second Five-Year Plan will also get their required supply from this Unit through the Superintendent, Foot-wear Units of the department.

The cold storage which was under construction during the last quarter is likely to be completed and function shortly.

In addition to the staff already appointed, one skilled operator in the scale of Rs. 24—1—35 was appointed.

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