

1144

IND - COM JOURNAL

Vol. XV



No. 3

July - Sep

1960

JL

X8m21, N46

N 60.15.3

94151.

1144

IND COM JOURNAL

Vol. XV. ... JULY - SEPTEMBER 1960 ... No. 3.



ON THE COVER

To produce insulated copper wires, needed for the various electrical equipments, modern machines and high grade precision manufacturing methods are necessary. Quality wires conforming to specifications are now manufactured in the well-equipped Government Electrical Goods Unit set up at the Guindy Industrial Estate and the cover picture shows the latest wire drawing and enamelling machines installed in this Unit.

ISSUE AT A GLANCE

SPECIAL FEATURE	PAGE
1. MANUFACTURE OF SUPER ENAMELLED AND COTTON COVERED WIRES AT GUINDY ESTATE ...	1— 4
2. MODERN WOOD-WORKING: A MODEL UNIT AT GUINDY...	5— 6
STANDARDIZATION	
3. STANDARDIZATION AND SMALL SCALE INDUSTRIES ...	7—13
ATOMIC POWER	
4. POWER FOR INDUSTRIES ...	15—18
SCHEMES	
5. PORCELAIN INSULATORS FOR SPARK PLUGS ...	21—22
6. TRANSISTORISED COMMUNITY RECEIVER ...	23—24
GUARANTEE OF CREDIT	
7. LOANS TO SMALL SCALE INDUSTRIES: GUARANTEE OF CREDIT ...	27—30

CONTENTS

INDUSTRIAL NOTES

PAGE

8. Steel Re-rolling Mills (Encouragement to Small Units)—Setting up New Units for Manufacture of Gas Cylinders—Tariff Protection for Wood Screw Industry to be Discontinued after December 31, 1960—Automobile Hand Tyre Inflator Industry; Protection to be Discontinued from Next Year—Calcium Lactate Industry to be De-protected after 31st December 1960—Porcelain Insulators for Overhead Lines—Minimum Performance Requirements of Mains-Operated Public Address Amplifiers—Handloom Cotton Floor Duries; I. S. I. Standard Published ... 31—34

VISITORS' BOOK

9. WHAT THEY SAY ... 37—42
10. THE PRESIDENT VISITS GUINDY ESTATE ... 43—
11. U. S. AMBASSADOR AT GUINDY ... 45—
12. THE INDUSTRIAL ESTATE MANUFACTURERS' ASSOCIATION GUINDY ... 47—

INTERESTING TO NOTE

13. ELECTRIC AUTOS ... 49—50
14. HOW PENCILS CAME TO BE MADE ... 51—

NEWS DIGEST

15. New Investment Centre for India—Small Industries Aided Training Cum Service Centre in Blacksmithy for Singanur—Blacksmithy and Carpentry Training Centre at Tiruvizhimazhalai—Carpentry Training Centre at Arni—Carpentry Training Centre at Velanganni—Building Material Units to be Established—Five New Bronzes on Show at Government Museum—Training in the Manufacture of Bamboo Articles—Industrial Training Institutes; Seats Increased by 500—Toy Industry in India—The British Pharmaceutical Code—Issue of Gift Coupons in the Cottage Industries Sales Emporium Revived ... 53--58

HANDICRAFTS

16. HANDICRAFTS INDUSTRY IN MADRAS STATE ... 59 -
17. INDIAN HANDICRAFTS ABROAD ... 60—61

SCIENCE NEWS LETTER

18. Colouring Leather by Machine—New White Paint—Long-life Washer for Taps—Welding Plastic Sheeting—New Method of Steel Frame Erection ... 63—64

CONTENTS

iii

PATENTS FOR NEW INVENTIONS

PAGE

19. Chemical Industries—Metallurgy—Food and Agriculture—Engineering—Textile Technology—Leather Testing—Steel Imports—Output of Cycles—Razor Blades—Export of Cashew-Nuts ... 65—66

NEW INDIAN STANDARDS

20. Tee Squares—Mild Steel Butt Hinges—Testing of Tin Coating on Tin-Plate—Lead Cable Alloy—Reverse bend tests for steel sheet & strip—Porcelain Insulators for Telegraph and Telephone Lines—Electroplating ... 67—69

EXPORTS AND IMPORTS

21. Record Rise in India's Export Earnings—Export of Leather—Indo-Hungarian Trade and Payment Agreement—Export Promotion Advisory Council Meets—Imports and Exports ... 71—89

ESTATE THEATRE

22. REVIEW OF INDUSTRIAL FILMS SHOWN AT THE TECHNICAL INFORMATION SECTION, GUINDY ... 90—92

BOOKS

23. INDIAN WOODS ... 93—
24. TECHNICAL INFORMATION SECTION LIBRARY ... 94—
25. PUBLIC NOTICE ... 95—

IN THE NEXT ISSUE

A special report on the Proceedings and Recommendations of the All India Seminar on Industrial Estates held at the Guindy Estate from 20th to 22nd Sep. '60.

SPECIAL FEATURE

WIRE DRAWING

MANUFACTURE OF SUPERENAMELLED AND COTTON COVERED WIRES AT GUINDY ESTATE

By **Sri E. N. NARAYANASWAMY, B. E.,**
(*Superintendent, Electrical Goods
Unit, Guindy*).

INTRODUCTION

Any electrical equipment, whether it is a transformer, switchgear, motor or even a receiver or transmitter, has in it a coil of windings of insulated copper wire. Most of these equipments depend on the basic principle of electro-magnetic field acting on another electro-magnetic field or a permanent magnetic field or even *vice versa*, for which a proposal insulated copper wire of suitable gauge and length is essentially required. Insulators for these wires are of enamel coating, cotton or silk covering or both. Cotton covered wires with shellac coating are also used for winding of motors.

Its History:—Previous to the present day development of modern method of wire drawing, wire was made by hammering or beating metal into sheets or plates which were cut into continuous strips. These strips were then hammered and filed to form threads of wire. Since these wires were short, it was necessary to braze several pieces together to make longer lengths. Later, instead of hammering and filing to shape, the narrow strips were pulled through shaped holes in metal pieces (as adopted by goldsmiths) or dies made of a harder material. It is thus, the first such dies were made of stone. For several centuries wire was drawn through such dies by manual labour.

The Modern Process:—In the present day, the term "*Wire Drawing*" refers to the processes whereby a rod is reduced to a wire by being pulled forcibly through a round die which reduces its diameter and increases its length. To make a wire, the metal is first prepared as a rod by rolling. It is then treated to give it a surface coating which will act as a lubricant during its passage through the die. The method of applying the lubricant gives rise to the wet and dry process of wire drawing. In the dry process the wire is dipped in an emulsion of hydrated lime and dried in baking ovens. Then just before it is passed into the die it passes through a greasing operation. The combination of lime film and grease provides the lubricant between the rod and the die during the drawing process. In the wet process the rod is first dipped in a solution of copper sulphate, which results in a thin coating of copper on the wire. It is then dipped in a vat containing a

IND-COM JOURNAL

Single Copy Re. 1 Only.

Postage Extra



Annual Subscription Rs. 3.50.

Subscribers are requested to renew
their subscriptions.

fermented mixture made from metal and yeast. Upon being withdrawn from the vat, it is fed wet into the die. The liquer, together with the thin copper deposited in the salt bath, lubricates the rod in the wet drawing process.

To start with, one end of the rod which is pointed, is inserted through the die and attached to a power-driven cylindrical block, which pulls the rod through the die and coils the resultant wire. During this operation, the rod is elongated and reduced in cross-section. The elongation is known as draft and may be about from 10 to 40 times the length of the original rod.

In a single draft drawing, the wire is drawn through one die at a time, the wire being then removed from the block and redrawn through the next smaller die, until the desired size of wire is reached. In continuous wire drawing, a multiple block or draft is used. In substance, this type of machine consists of a number of single-block machines built together in one unit. Each block may be driven by a separate motor or all may be driven by one motor having suitable driving gears for each block on single shaft.

The Dies :—The drawing die which is a most essential part of wire drawing, was originally made up of a chilled cast iron die or a punched, heat-treated steel plate. Within recent years, these older die forms have been superseded by carbide dies which are extremely hard and wear-resistant. A carbide die may be of tungsten, tantalum or titanium. Diamond dies are also now-a-days used. The carbide dies are made use of in drawing thicker gauges of wires upto about 19 S. W. G. (1.02 M. M. dia), while the diamond dies are used for finer wires upto 48 S. W. G. (0.041 M. M. dia).

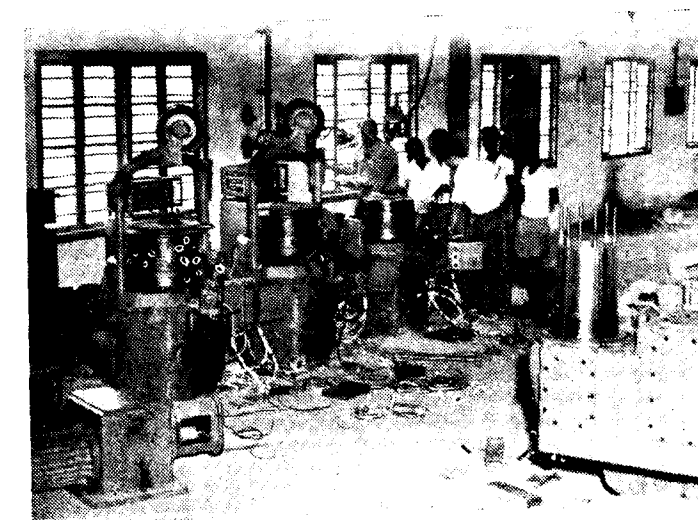
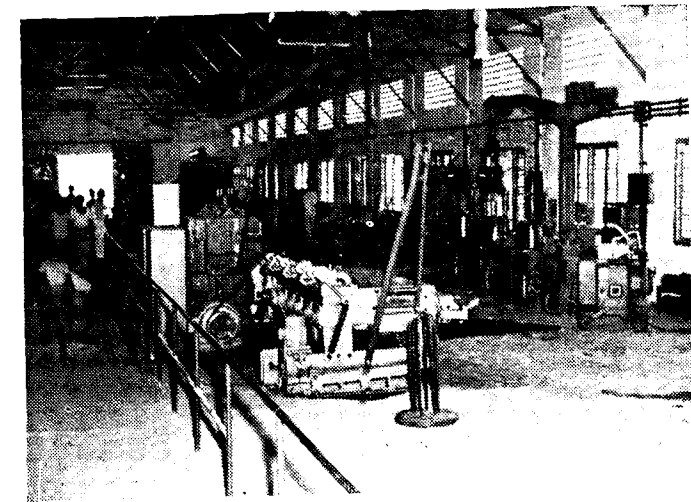
Because of the heat generated by the drawing process, it is usually necessary to air or water-cool the dies

Lubricants :—Bare rods or wires cannot be drawn through these dies without the use of lubricants, since the heat generated by friction would cause the metals to seize, or the wire would be scratched and the die worn and the wire would eventually be off-gauge or break or both. Many kinds of lubricants such as an emulsion of hydrated lime or copper sulphate are used for wire drawing depending on the method Viz., wet or dry drawing used. As a rule, lubricant for wire drawing is required only for the first draft, since enough will be carried over on the wire to finish the entire drawing. If, for any reason, more lubricant is needed, it can be added at any subsequent drafts or stages. The principle for both the wet and dry drawing is the same but different types of machines are used. The blocks, instead of being vertical in dry drawing, are usually horizontal and are revolved in the drawing, solution in wet drawing.

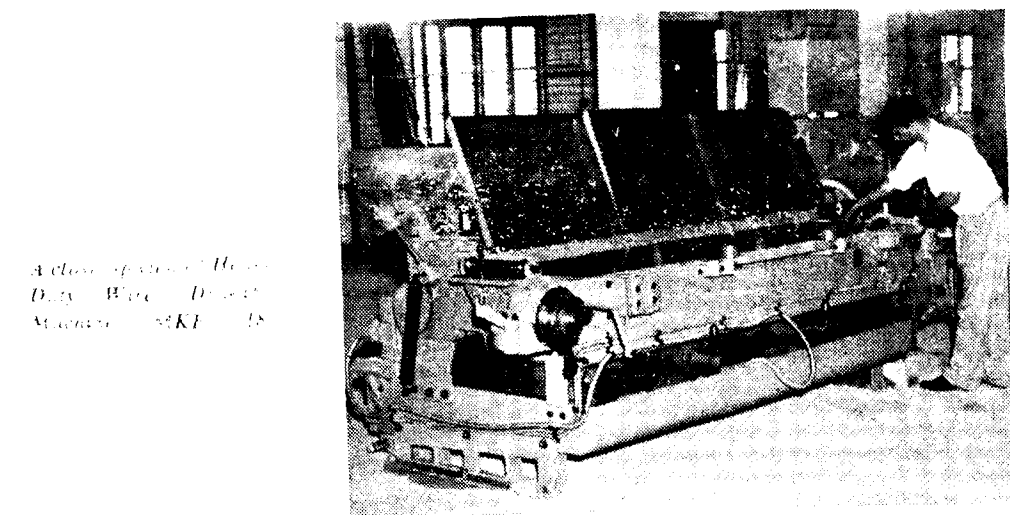
Annealing and Heat Treatment :—wire cannot always be finished directly from the rod, since it becomes so hard before the finished size is reached that unless softened, it will break. Softening is accomplished by heating the wire to a point below the critical range for a period of time long enough to relieve the drawing strains. In some cases, the rods are given a special heat treatment called patenting before the drawing operation.

Enamelling :—Enamelling copper or other metallic wires for electrical uses consists in applying a laquer-like coating on the naked wire. The wire will be carried through the laquering fluid bath six to ten times or even more, the laquering layers then being turned upon the wires at high temperatures. A special kind of oil laquer containing none or

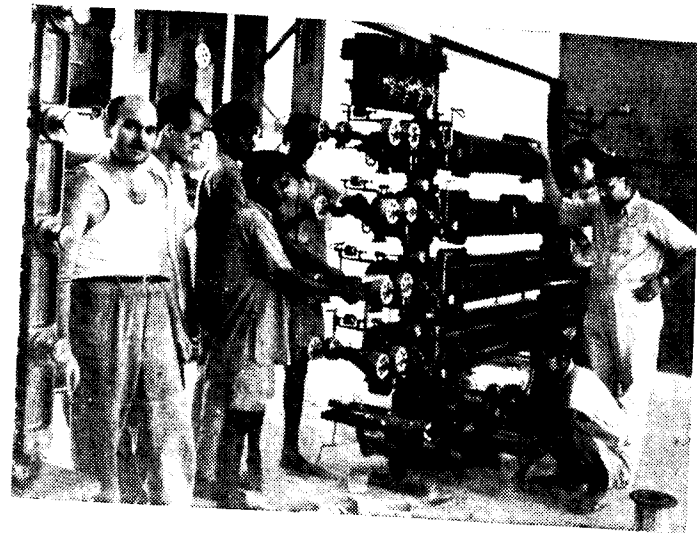
General view of a wire drawing machine



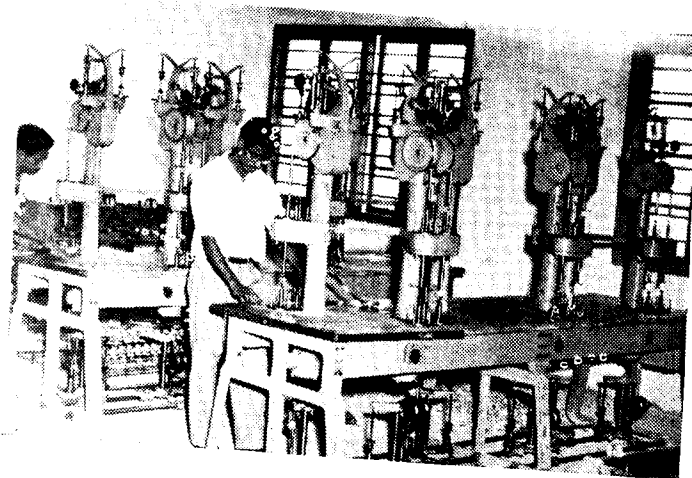
Heavy Duty Wire Drawing Machine under erection



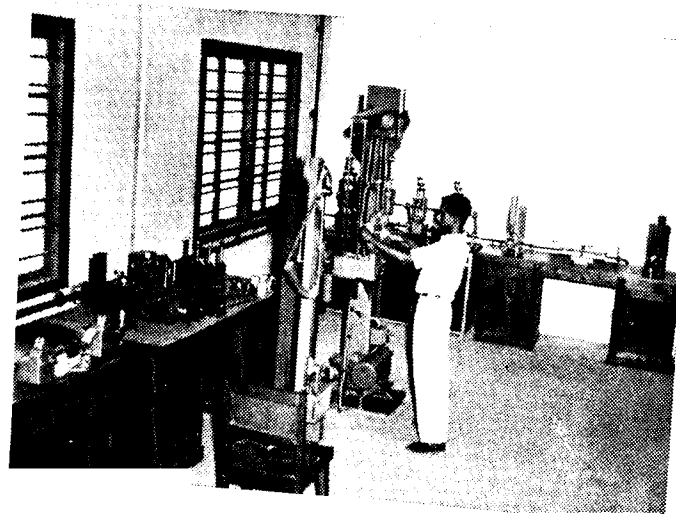
A close-up view of a Heavy Duty Wire Drawing Machine



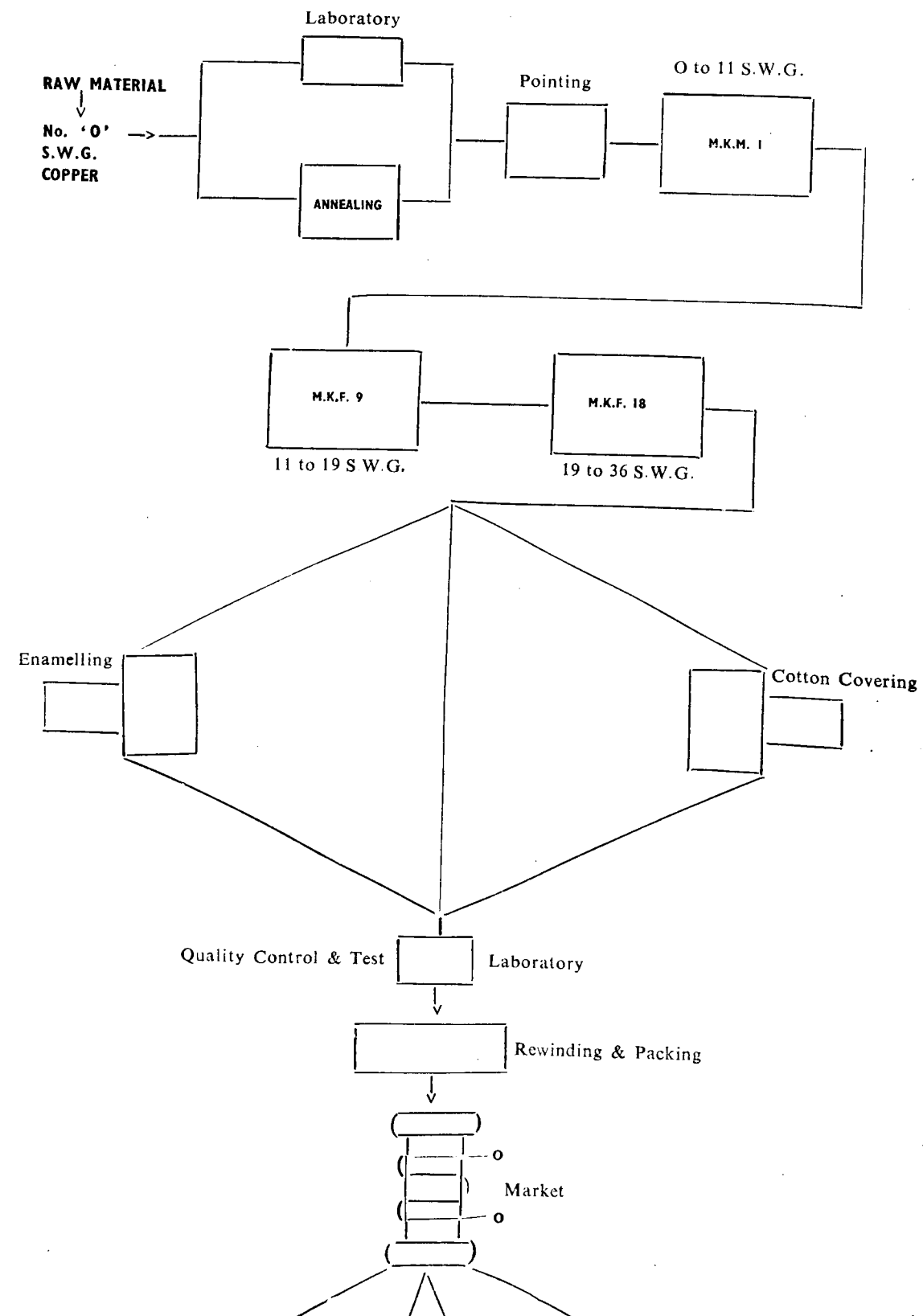
Hand set Enameling Machine being set up



A view of the Cotton Covering Section



Testing Laboratory



very little artificial drying agent will be applied. Synthetic laquering substances like nylon, formvar, formadur, pennylit or pennudures will be used. These special agents will provide, in spite of their high applying temperatures, a durable elastic coating showing favourable electrical properties. The operation is a delicate one and the quality depends on many factors like proper heat, proper speed of feed, quality of enamel used, cleanliness of the surroundings of the machine and unless perfection of these is ensured, the quality of wires produced is bound to be far from being upto mark.

Cotton Covering:—The cotton covering is done by special machines where the bare or enamelled wire is given a covering by a continuous cotton yarn stranded according to the requirement. Cotton yarn of superfine quality is first stranded in a machine and then the application of this stranded cotton is made on the continuously fed copper wire.

PRESENT DAY DEMAND

As at present, there has been very great difficulty in getting proper quality of enamelled wires of indigenous makes and for quality goods, that too, of thinner gauges, one has to depend only on foreign manufacture.

The following table will give an idea of the quantity of both enamelled and cotton covered wires imported during the last two years:—

<i>Years</i>	<i>Enamelled & Cotton Covered Wires</i>	<i>Plain Enamelled Wires</i>
1957	2,16,838 lbs. or 96.80 Tons. (Value Rs. 1.019 Lakhs)	22,02,319 lbs. or 963.18 Tons. (Value Rs. 7.30 Lakhs)
1958	1,39,737 lbs. or 62.38 Tons. (Value Rs. 0.565 Lakhs)	8,49,878 lbs. or 379.41 Tons. (Value Rs. 2.768 Lakhs)

The total indigenous production of these wires (both enamelled and cotton covered) are stated to be of the order as under:—

1956	...	768 Tons
1957	...	1,020 Tons
1958	...	2,076 Tons

These figures go to show the ever increasing demand for these insulated wires in this Country.

THE UNIT AT GUINDY

The Preamble:—Numerous units have sprung up in the private sector for the manufacture of electric motors, fans, radios, chokes, etc. and the vital raw material for these is magnet wire. Copper by virtue of its being tensile, ductile, malleable and of good conductivity, is ideally suited for the manufacture of wires for these electrical equipments. Besides, it possesses the property of withstanding high temperatures without any deteoration or lowering of dielectric strength which is particularly important in our country where the atmospheric temperature in summer is very high in many places. The insulating film for the wire should be resistive to absorption of moisture which will cause short circuit and breakdown. The coating must also be able to stand the action by chemicals. In addition, the insulated wires should be smooth and uniform in thickness which will satisfy the space factor in a coil, as every coil consists of thousands of turns of wire.

The present situation in the electrical line in this country puts ever increasing claims on the proper quality of enamelled wires and to produce quality wires of aforesaid specifications, modern mechnes and high grade precision manufacturing methods are necessary. Hence, with a view to encourage the manufacture of electrical wires of requisite grades and quality, the Government of Madras have set up an Electrical Goods Unit

at the Industrial Estate, Guindy at a cost of Rs. 18.5 Lakhs. Being equipped with the latest type of machines, the unit undertakes wire drawing, as also supply of cotton and silk covered and enamelled wires. The capacity of the unit is 0.5 tons of enamelled wire and one ton of cotton covered and other wires per day.

EQUIPMENTS

Wire Drawing Machines :—Three wire drawing machines, one of medium duty using tungsten carbide dies and the other two of heavy duty type using diamond dies have been installed. These electrically operated automatic machines of Hungarian make are used to manufacture wires from O. S. W. G. to 38 S. W. G. The first machine operates in three stages, the second one in eight stages and the third one in eighteen stages.

Welding Machine :—A wire welding machine has also been erected as a common ancillary for these three machines so as to enable the cut wires to be welded without any loss of time.

Enamelling Plants :—The enamelling section of the unit has two enamelling ovens, one of horizontal type and the other of vertical type. The vertical type with ten ovens is designed for enamelling wires upto 25 S.W.G. In the vertical type, out of the ten ovens, two are made for the annealing of wire before enamelling and other eight ovens are for the actual enamelling. In the case of the horizontal type, there are no separate annealing ovens. In both the types, each oven is independent in itself. As the consistency of temperature is an important factor in getting the proper quality of wire, each oven has a thermostatic device by which the oven is switched off when the temperature exceeds the pre-determined value and is automatically cut in when the temperature comes down. The vertical plant can deliver 500 lbs. and

the horizontal one 200 lbs. per day of 24 hours.

Annealing Furnace :—The Unit has an electrically operated Annealing Furnace for the bright annealing of copper, steel and aluminium wires before being drawn into smaller gauges. A maximum temperature of 800°C can be reached in the furnace and the out-put is 3600 Kgms. per day of 8 hours.

Cotton Covering Section :—The cotton covering section of the unit has 24 cotton covering heads, each capable of turning out 100 lbs. of double cotton covered wire per day.

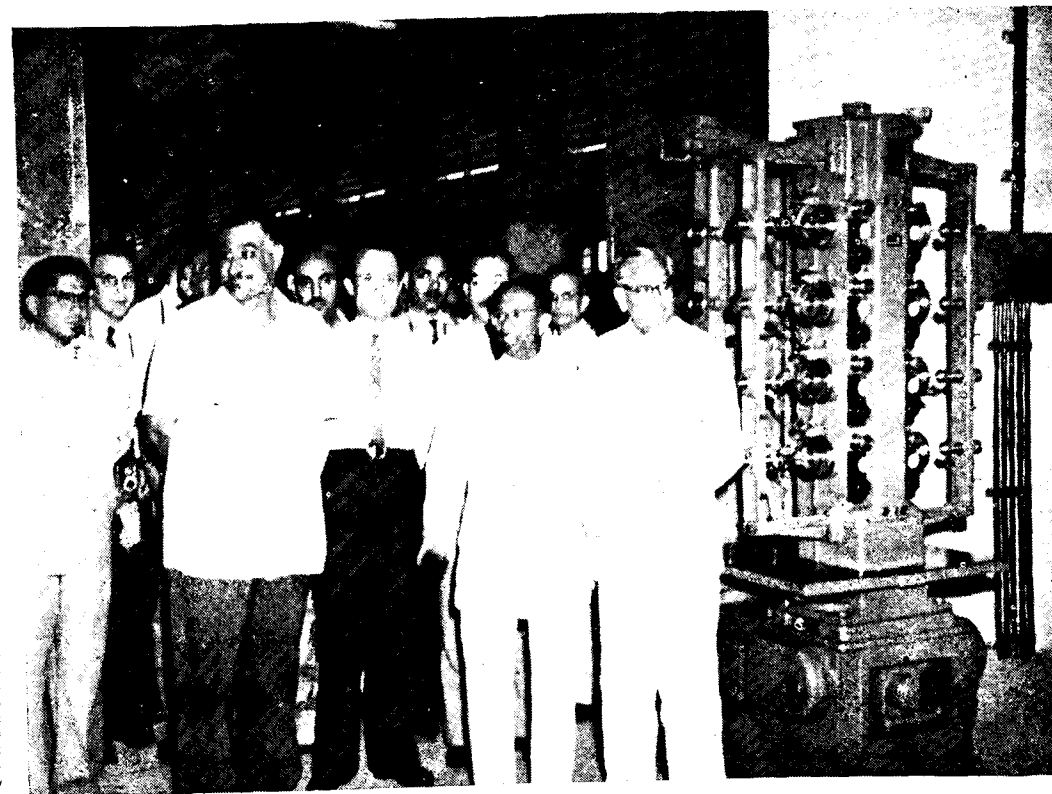
Testing Laboratory :—In order to ensure perfect quality control of both the raw materials and the finished goods, a fully equipped Laboratory with a 5 ton Tensile Tester, Yarn Tester, Salt Bath Tester, Thompson's Bridge Tester, Electric Drying Cabinet Tester and Abrasion Tester have been installed.

Every piece of raw material as also the finished goods, undergoes detailed test and examination before being passed in and out of the works.

Servicing Facilities :—The Unit, besides manufacturing quality wires required for the various industries, affords the following servicing facilities :—

(1) Drawing of Wires from O.S.W.G. to any size upto 38 S.W.G; (2) Enamelling and double cotton covering of wires upto 38 S.W.G; (3) Testing of samples of wires for their tensile properties; (4) Testing the quality and strength of yarns and testing of enamelled and cotton covered wires.

It is hoped that the Electrical Goods industries in our State will be greatly benefitted by utilising the services offered by the Service Centre for Wire Drawing and Enamelling Unit at the Guindy Estate.

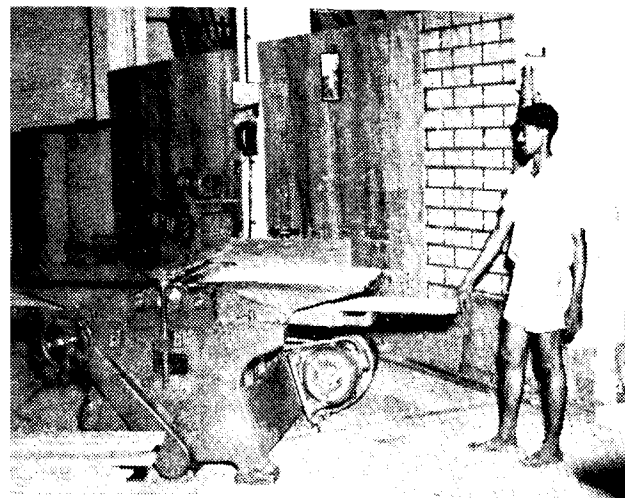


The Service Centre for Wire Drawing and Enamelling Unit at the Guindy Estate, Chennai. The unit is equipped with the latest type of machines for wire drawing, cotton covering, and testing.

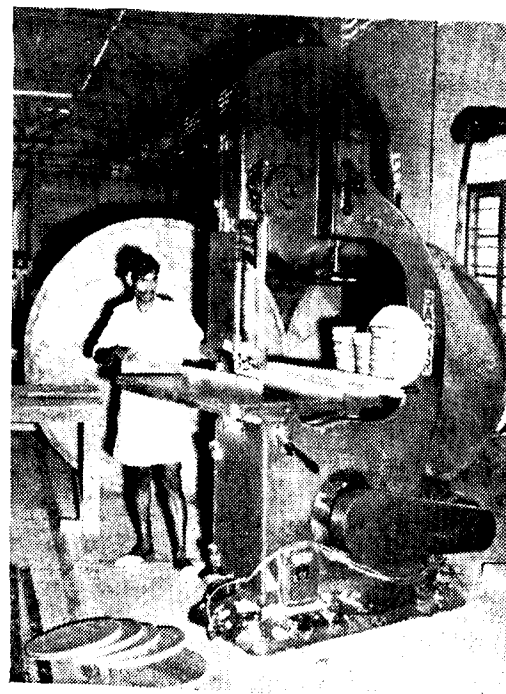




Modern dining room furniture made in the U.S.A. The new design, built in wood, is a model unit at Guindy.



Modern dining room furniture made in the U.S.A.



Modern dining room furniture made in the U.S.A.

MODERN WOODWORKING



A Model Unit at Guindy

INTRODUCTION

Wood, the multi-purpose wonder material, is in universal use ever since the days of stone age. Let us ponder for a moment that wood had never existed at all. Then there would be a lot of clay and stone wares, plenty of glass and metal articles, but no wood products. With what result? These may compare favourably with wood in utility but lack in its easy workability; they may rival it in strength, but do not possess its ruggedness; they may rank up with wood in stiffness, but lack its insulating power. Besides, wood is less costly, light in weight though possessed of good strength, absorbs shock without rupture and does not shatter when struck. Wood, when painted, presents a smooth, attractive and enduring surface. And above all, wood can be worked with the simplest of tools. Thus one can realise why wood has all along remained a primary utilitarian material and no competitive material has all the advantages of wood.

INDIAN FOREST WEALTH

India is said to be below par in her forest wealth which covers only about 22 per cent of geographical area as against the 33 per cent which is supposed to be the proper ratio to supply a country with its timber. The wartime exploitation which denuded most of her forests of valuable timber and the reorganisation of States which deprived of her rich forest land have left our State with only about 13 per cent of the total area under forests, much of which is scrub jungle. Thus, Madras can, in a sense, be called a

timberstarved State and it is unfortunate that, under such a circumstance ignorance of the techniques of wood has led to wasteful uses of timber. Teak is almost exclusively preferred for buildings in the South, while deodhar, sal and shishan are in great demand in the North. Timber engineers tell us that as against the above four species, there are as many as ninety varieties available in Indian forests that can be used in buildings with due safety and durability, provided proper steps are taken to preserve them by seasoning and special chemical treatment and the public also would certainly prefer low-cost treated

timber for domestic consumption, if they are readily available to them.

OUT-DATED ORTHODOX WAYS

The demand for furniture, which is an essential commodity, is becoming more and more with the all round development taking place in this sphere. The demand will be enhanced if such commodities are available at a cheaper cost than at present. The major factor in the cost of production of furniture is the cost of labour which is more or less equal to the cost of raw material. Absence of technical knowledge, lack of efficient machinery and out-moded production methods are some of the retarding factors in the development of carpentry in India. Most of the carpenters in our country still follow the orthodox ways of wood-working using only the common hand tools and strenuous operations like sawing and planing are continued to be done by hand, thereby causing a great wastage of time and human energy. Information regarding better equipment and modern manufacturing methods is not available to them. The carpenters have little knowledge of the modern power driven machines and tools which their brethren are using in the industrially advanced countries. They are not aware of the amazing progress made in transforming wood from a material of more craftsman-ship to one of engineering.

SEASONING OF WOOD

There has been frequent talk of seasoning kiln and preservative plants, but not many of them seem to have been established in this State. The Service-Cum-Training Centre for Woodworking and Timber Seasoning set up

by the Madras Government at the Industrial Estate, Guindy, is well-equipped with upto-date woodworking machines, seasoning plant and testing equipment. Seasoning of timber for other small units is one of the major services rendered by this unit. Cracking, warping, contraction and bending often occur in structures and furnitures that are made of wood that has not been seasoned. The joint in them will also become loose. Further a wood not seasoned will not take good polish or paint; even the little paint or varnish that are applied will peel off after the timber gets dried up; Thus, it is imperative that wood should be seasoned before it is made use of. The Woodworking Unit at Guindy does the job of wood-seasoning on modern lines.

WOOD PRESERVATION

Next in importance comes the treatment of timber with preservatives. Longer life is ensured to timber when it is treated with preservatives. The Unit at Guindy is procuring one Ascu Treating Plant which will be useful to impregnate country wood species with Ascu. Such a treatment makes the wood insect-proof and also more durable. The services of the plant will be made available to the industries in and around Madras.

Many modern woodworking machines have been installed in the Guindy Unit. They include Planer and Thicknesser, Mortising machine, Tenoning machine, Spindle Moulder, Bandsaw Ductoring equipment and Router. Besides, portable power tools have also been procured. High class furnitures in delightful varieties are made in this unit. The Centre undertakes servicing, and training is also imparted.

STANDARDIZATION AND SMALL SCALE INDUSTRIES

INTRODUCTION

It is a known fact that the small scale industry products lack standardization. I have often heard from entrepreneurs in the small scale industries that it was not possible to produce goods in their concerns upto Indian Standards and that standard specifications for products of small scale industries should be less rigorous than those for products of large-scale industries. These erroneous notions are due to lack of scientific knowledge about standardization. One very eminent thinker of our land aptly remarked that standardization is to industry what civilization is to society. That is to say just as rules of civilized behaviour regulate social intercourse of man so does standardization help to regulate the conduct of industry and trade in a smooth and efficient manner. Just as it is not only essential for big nations alone to follow tenets of civilization and culture; a group of uncivilized people, howsoever small in number, is a slur and a drawback to the society. In the same manner for making the most economical use of raw materials and improving productivity and efficiency of man and machine and for bringing order in production standards are equally essential for all industries, large, medium or small scale. Standardization in Small Scale units is very essential to enable them to forge ahead in their march of industrialization.

AIMS OF STANDARDIZATION

The fundamental feature of standardization is simplification and rationalization. Its purpose is to reduce unnecessary and costly variety of products, judging not only from external forms of products but also from the whole body of properties by which their quality, performance and fitness are determined.

Standards facilitate management, control and direction. They simplify processes for production by providing for inter-changeability of parts and supplies. When properly carried out, standardization results in easier inspection, simpler maintenance and better workmanship. It helps in reducing stores and inventories and in the production of more and better articles of the same type at lower cost.

By
Shri G. L. GULATI,
(Assistant Director, Indian
Standards Institution)

Standardization, in brief, serves as a guide to manufacturer, as a basis of trade contract, as an instrument to help technologists to judge quality and performance value, and as a solution of recurrent problems of designer and construction.

Standardization does not apply to mass production of finished goods alone; many standards deal with tools, instruments, material processes, and techniques, codes of practices, methods of testing, metric system, forms of contracts, basic terminology, glossaries etc.

RELAXATION FOR SMALL-SCALE INDUSTRIES

Coming to the question of having less rigorous standards for the products of small scale units than for the bigger units, dual standards will defeat the very purpose for which so much encouragement to the small scale units is being given. If small scale units have to serve as feeders to bigger units, there cannot be two standards for manufacturing. Fits and tolerances will clash and ultimately the parts cannot be used. If it is not economical for the small scale manufacturer to produce to close tolerances, it is better to produce semi-finished components to the nearest dimension and leave the task of final finishing to the larger units before assembly as a separate operation. This will enable the products of the small industries to be of a uniform quality and at the same time to conform to some standard.

The dual standards are not necessary even in the case of finishing. Finishing requires individual attention, whether, in a large organization or small scale organization, it will be easier to give attention to the details and the finish can equal large scale production.

Small scale units are economical and could feed larger units with piece parts. Larger

units have to work to some accepted standard and if the smaller units have their own standards, these components cannot be fed to the larger units. Entire processing of engineering components manufactured to a relaxed standard has to be undertaken by the small scale units themselves. This will prove to be uneconomical in the long run.

Even in the production of consumer goods and other products in which the small units have to compete with the larger units it is absolutely essential to have only one set of standards both for small industries and large industries. The consumer should have some common yardstick for assessment of the quality of the product he buys.

FORMULATION OF INDIAN STANDARDS

The formulation of national standards in our country is entrusted to the Indian Standards Institution, briefly known as ISI, which is neutral body working on a co-operative basis. The procedure followed by the ISI in laying down standards, ensures the co-ordination and reconciliation of divergent views of the groups substantially concerned with the subject of the standard, i.e. the manufacturers in the large, medium and small-scale industries, traders, consumers, testing and research organizations, technical and Governmental agencies. This essential step in the processing of Indian Standards involving as it does a unified decision of the pooled available talent in the country, lends them a national character readily and easily amenable for adoption by all manufacturers. In drawing up standards for items of special interest to small-scale industries, views of the Development Commissioner of the Small Scale Industries, Government of India, and the Director of Small Industries Service Institute, in different states are particularly invited. Special care in such cases is given to the availability of raw material, the

techniques usually employed in the manufacture, the atmospheric conditions under which the industry works so that when the standard is finalized there might be no difficulty in implementing it.

INDIAN STANDARDS FOR SMALL-SCALE INDUSTRIES

It would be unfair to say that the ISI has not catered to the needs of small scale industries. Most of the items made on small and medium scale basis have been covered by published Indian Standards which now number more than 1300. Below are listed some of the Indian Standards which have special bearing on small-scale industries of the Southern Region:

(a) *Handloom Industry*—Undoubtedly, the handloom industry is the most important cottage and small scale industry in the Southern Region, the number of looms being over 6,40,000. The ISI Handloom Committee on the subject is very much alive to it. It has issued standard specifications for the following 48 items of cotton fabrics:

Bed Sheets, Blankets, Bunting Cloth, Dhooties, Dungri Cloth, Lungies, Mazri Cloth, Muslin, Pugri Cloth, Sarees, Malmal, Dosuti, Lint, Gauze, Turkish Towels, Honeycomb Towels, Huckaback Towels, Napkins, Table Cloth, Dusters, Sponge Cloth, Jaconet Cloth, Ticking Cloth, Bandage Cloth, Light Sheeting, Fabric for Covering Plywood in Aircraft, Madras Handkerchiefs, Gada Cloth, Dress Material, Holland Cloth, Mosquito Netting, Cambric, Lining Cloth, Crepe, Cellular Shirting, Buckram Cloth, Cambric for Oil Dressed Fabric, Mosquito Netting—Square Mesh, Cellular Shirting, Filter Cloth for Sugar and Oil Industries, Nainsook, Calico, Shirting, Coating, Longcloth, Pyjama Cloth, Curtain Cloth, Madras Check and Drills.

The work on Standards for other handloom items like Durries, Twills, Poplin, Tussore, Silk and Rayon Fabrics is in hand.

The Indian Standard Specifications for Woollen Handloom Fabrics which have already been published include carpets, Druggets, Worsted Bunting Cloth, Worsted Shirting, Blankets and Blanketting Cloth, Kamblies, Tweed, Serge, Worsted Raffal Shawls and Lohis.

(b) *Agricultural Implements*—In view of the emphasis now laid on increased agricultural production the demand for agricultural implements is expected to grow in the coming years. This will give excellent opportunities to small scale manufacturers to expand this industry provided they make dependable implements. The following Indian Standards covering agricultural implements have already been issued;

IS : 273-1951 Picks and Beaters.
 „ 274-1951 Shovels.
 „ 621-1957 Forks for Plantations and Estates.
 „ 619-1955 Pruning Knives, Hooked & Curved.
 „ 663-1955 Adzes.
 „ 703-1956 Axes.

(c) *Bicycles and Components*:—The number of bicycles in the Southern Region was estimated to increase from 1.1 millions in 1955-56 to 2 millions in 1960-61 while the demand for cycle parts and accessories was expected to increase from Rs. 61 lakhs in 1955-56 to Rs. 107.5 lakhs in 1960-61. The bicycle industry in this region is still in a developing stage and there is good scope for more units to come up particularly for manufacturing components and accessories. The following Indian Standards for bicycles and their parts have already been issued and work on Bicycle Front Forks, Steering Head Assembly, Tyres and Bicycle Tubes is in progress:

IS : 532-1954 Bicycle Tube Valves.
 „ 623-1955 „ „ Frame.

IS: 624-1955	„	Rims.
„ 625-1955	„	Handle Bars.
„ 626-1955	„	Seat Pillars.
„ 627-1955	„	Chains.
„ 628-1955	„	Pedal Assembly.
„ 629-1955	„	Hub Assembly.
„ 630-1955	„	Spokes (Plain) and Niple for Spokes.
„ 660-1958	„	Rim Tapes and Buckles.
„ 1131-1958 to 1134-1958	„	Bottom Bracket Assembly Components.
„ 1281-1958	„	Cranks & Chain Wheels.
„ 1282-1958	„	Cotter Pins, Washers and Nuts,
„ 1283-1958	„	Free-wheels.

(d) *Sewing Machines and Parts*—In 1956-1957 the demand for sewing machines in the Southern Region was placed at about 18,000 which is estimated to increase to 37,000 in 1960-61. Like the bicycle industry this industry has also good prospects for being developed at small-scale level. The following Indian Standards have already been published and the subjects on which work is going on include bobbins, needle bars, pressure foot and pressure bars, glossary of sewing machine parts, shuttles, shuttle race, bobbin case, square sliders and round rollers (big and small), needles and also Sewing Machines (Household Model):

IS: 1294-1958 Bobbins for Sewing Machines.
 „ 1295-1959 Needle Bars for Sewing Machines.
 „ 1296-1959 Pressure Feet for Sewing Machines.
 „ 1297-1959 Pressure Bars for Sewing Machines.

(e) *Electrical Appliances*—With the increase in standard of living of general public and availability of electricity to larger areas there is bound to be greater demand for electrical appliances like irons, cooking ranges, hot plates, stoves etc. In view of the restricted imports there is good opportunity for developing and enlarging this industry provided the manufacturers concentrate on

the production of quality goods. Indian Standards already published in this field are:

IS: 302-1952	General Requirements for Electrical Appliances for Domestic Use.	
„ 365-1952	„	Electric Hot Plates.
„ 366-1952	„	Irons.
„ 367-1952	„	Kettles for Domestic Use.
„ 368-1952	„	Portable Immersion Heaters for Domestic Use.
„ 369-1952	„	Radiators for Domestic Use.

Special attention for safety requirements and tropicalization in these Indian Standards have been paid after giving due consideration to atmospheric conditions in the country.

In addition to the above the following Indian Standards in the Electro-technical field have also been issued:

Motors

IS: 325-1956	Three-phase Induction Motors for Industrial Use.
„ 900-1956	Code of Practice for Installation and Maintenance of Induction Motors.
„ 1231-1958	Dimensions of Three-Phase Induction Motors.

Fans

„ 374-1951	Electric Ceiling Fans.
„ 555-1955	Table-Type Electric Fans.
„ 1169-1957	Pedestal Type Electric Fans.

Cables

„ 434-1953	Rubber-Insulated Cables and Flexible Cords for Electric Power and Lighting (for Working Voltages Up to and Including 11 kv.).
„ 693-1955	Varnished Cambric Insulated Cables for Electricity Supply.
„ 692-1957	Paper-Insulated Lead-Sheathed Cables for Electricity Supply.

WORKSHOP, WOOD-WORKING AND SHEET-METAL WORKING MACHINERIES

FOREIGN MAKE

- ★ DANISH 'REFIX' HYDRAULIC PIPE BENDERS
(3/8 to 2" & 3" cap.)
- ★ GERMAN 'PEDDINGHAUS' HAND LEVER SHEARS
- ★ U. S. A. 'SPRUNGER' WOOD WORKING MACHINERIES
(Bandsaws, Circularsaws, Jigsaws etc.)
- ★ ENGLISH 'RELIANCE' DRILL GRINDING JIGS.
(1/8" to 2" cap.)
- ★ ENGLISH 'BRIDGES' ELECTRIC PORTABLE TOOLS
- ★ MOTORISED TOOL GRINDERS
(6" to 12" Wheels)
- ★ SPRAY PAINTING UNITS & COMPRESSORS.
- ★ MOTORISED INDUSTRIAL & PORTABLE BLOWERS
- ★ FLEXIBLE SHAFT GRINDERS Etc., Etc.

INDIGENOUS 'MASTER' MAKE

- ★ S. S. & S. C. MOTORISED LATHES
(3' to 16' Size)
- ★ BENCH & PEDESTAL DRILLING MACHINES
(1/2" to 2" cap.)
- ★ MOTORISED PLANNING MACHINES
(4' to 12' cap.)
- ★ MOTORISED SHAPING MACHINES
(7" to 30" cap.)
- ★ MOTORISED HACKSAW MACHINES
(4" to 12" cap.)
- ★ TREADLE GUILLOTINE SHEARS
(18" to 48" × 18 SWG cap.)
- ★ BALL FLY PRESSES OF B.S. SPECIFICATION
(From No. 0 to 8)
- ★ ECCENTRIC & POWER PRESSES
Etc., Etc.



Phone: 23-1052

MACHINE TOOLS TRADERS (Calcutta)
 25, GANESH CHANDRA AVENUE — CALCUTTA - 13.

— Associated with —
MACHINE TOOLS TRADERS
 45/47, Dhanji Street, BOMBAY-3.

— Branch —
MACHINE TOOLS TRADERS
 Katra Harising — AMRITSAR.

Cables—contd)

- .. 694-1955 PVC Cables and Cords for Electric Power and Lighting for Working Voltages upto and including 650 volts to earth.
- .. 1255-1958 Code of Practice for Installation, Operation and Maintenance of Impregnated Paper - Insulated Solid Type Lead-Sheathed Power Cables upto and including 33 kv.

(f) *Sports Goods*—The following Indian Standards for Sports Goods have already been published :

- IS: 414-1953 Guts for Tennis, Badminton and Squash Rackets,
- .. 415-1953 Shuttlecocks.
- .. 416-1953 Cricket and Hockey Balls.
- .. 417-1953 Footballs, Volley-Balls and Water Polo Balls.
- .. 827-1956 Sinew Guts.
- .. 828-1956 Cricket Bats.
- .. 829-1956 Hockey Sticks.
- .. 830-1957 Tennis Racket Frames.
- .. 831-1957 Badminton Racket Frames.

Work in hand : Tennis Balls.

(g) *Hand Tools*—The following Indian Standards on Hand Tools have already been published :

- IS: 273-1951 Picks and Beaters.
- .. 274-1951 Shovels.
- .. 402-1952 Chisels.
- .. 413-1953 Punches, Round.
- .. 510-1953 Blacksmith's Anvils (Cast Steel).
- .. 552-1954 Smith Bits.
- .. 599-1954 Twist Drills.
- .. 619-1954 Pruning Knives, Hooked & Curved.
- .. 620-1954 General Requirements for Tool Handles.
- .. 621-1957 Forks for Plantations and Estates.
- .. 663-1955 Adzes.
- .. 664-1954 Combined Drills and Countersinks (Centre Drills).
- .. 666-1955 Drilling Jig Bushes.
- .. 703-1956 Axes.

IS: 704-1957 Crow-Bars and Claw-Bars.

- .. 841-1957 Hand Hammers.
- .. 842-1956 Smith's Swages.
- .. 843-1956 Smith's Tongs.
- .. 846-1956 Smith's Flatters.
- .. 847-1956 Smith's Fullers.

Work in hand: Smith's Braces, Pliers, Vices, Transplanting Spades and Seprangs.

(h) *Cutlery*—The following Indian Standards for Cutlery items have already been published :

- IS: 888-1956 Hollow Ground Razors, Open Type.
- .. 989- .. Scissors.
- .. 990-1957 Spoons, Stainless Steel.
- .. 991- .. Spoons, Brass and Nickel Silver.
- .. 992- .. Forks (Table, Fish and Serving), Stainless Steel.
- .. 993- .. Forks (Table, Fish and Serving), Brass and Nickel Silver.
- .. 994- .. Fish Knives and Butter Knives.
- .. 995- .. Table Knives, Dessert Knives and Fruit Knives.
- .. 921-1959 Butcher's Knives.
- .. 922-1958 Cook's Knives.
- .. 923-1958 Carving Knives.
- .. 924-1959 Bread Knives.
- .. 925-1958 Pocket Knives.

(i) *Locks and Hardware* :—A number of small-scale units are engaged in making hardware items. Indian Standards for the following items have already been printed by the ISI.

Door Bolts, But Hinges, Tee and Strap Hinges, Gate and Shutter Hooks, Door Handles, Padlocks, Sliding Door Bolts, Parliament Hinges, Hasps and Staples, Fanlight Catch, Wood Screws, Door Springs, Double-Acting Spring Hinges, Wire Nail Ruler and Square Hooks and Cups, Buckets, Drawer Locks, Fixing Accessories, Tinmen's Rivets, Padlocks, Rim Latches, and Square ro Hexagon Head Coach Screws.

(j) *Wood Based Industries* :—It is estimated that there are more than 300 small scale units in the Southern Region engaged in the manufacture of furniture items. This figure, of course, excludes the individual carpenters both in the towns and villages. The urban production of furniture from these units was estimated at 125 lakhs. It may be reasonably expected that there will be ample scope for expansion of this industry. In the manufacture of these items it is essential that the right type of wood is used in the most economical manner. To assist the industry Indian Standards covering the following subjects have already been issued.

Plywood Tea-Chests, Coniferous Sawn Timber, Recommendations for Maximum permissible Moisture-Proof Plywood; Classification of Commercial Timbers; Preservation of Timber; Wooden Separators for Batteries; Logs for Plywood; Glossary of Terms Applicable to Timber; Aircraft Plywood; Synthetic Resin Adhesives for Plywood; Casein Glue for Wood; Animal Glue; Codes of Practices for Seasoning of Timber and for Use of Structural Timber in Buildings; Logs for Matches; Abbreviated Symbols for Timber Species; Non-Coniferous Sawn Timber for Further Conversion, Veneered Decorative Plywood, Aircraft Timber and Cut Sizes of Timber.

(k) *Chemical Industries*—Indian Standards covering a large number of chemicals including Paints, Varnishes, Polishes, Inks, Soaps, Oils, Leather and Leather products, Rubber Goods and Plastics, etc, have been issued.

(l) Indian Standards for *Confectionery, Biscuits and Dairy Products* have also been published.

CONCLUSION

The best way of stabilizing small scale Industries is to adopt Indian Standards and to take active interest in their formulation, but the main difficulty with them is that most of them are not manned by either technically qualified or sufficiently educated persons, and therefore the importance of standardization and the maintenance of uniform quality in their products is not realized. Often the small scale industries are not even aware of the existence of standards. It is necessary therefore that :

(a) The State Governments help in this direction by providing the small scale industries in the States, through ISI, with authorized translations of the specifications in the regional languages so as to enable a large number of small scale units in their respective States to adopt Indian Standards;

(b) All efforts should be made to give the Indian Standards widest publicity in local languages through the State Publicity Departments; and

(c) The Small Industries Service Institutes, which have been established, in all the States to give technical assistance to small scale Industries, should each of them join as members of ISI so that they keep themselves fully equipped with the latest information on National Standards and take active part in its technical activities so that the view point of small scale industries is taken due note of in the formulation of Indian Standards. The Institutes should also help small units in implementing National Standards and producing standard products by making available to them standards literature and testing facilities.

POWER

for Industries

The supply of limitless power has always been an inventor's dream. Today, that dream may be approaching reality. Indian Scientists are well on the way to making this dream come true. At present the work is in the research stage. A few years of research and experiment should necessarily precede before we could supply our homes and factories with cheap electric power from nuclear power stations.

IN BRITAIN

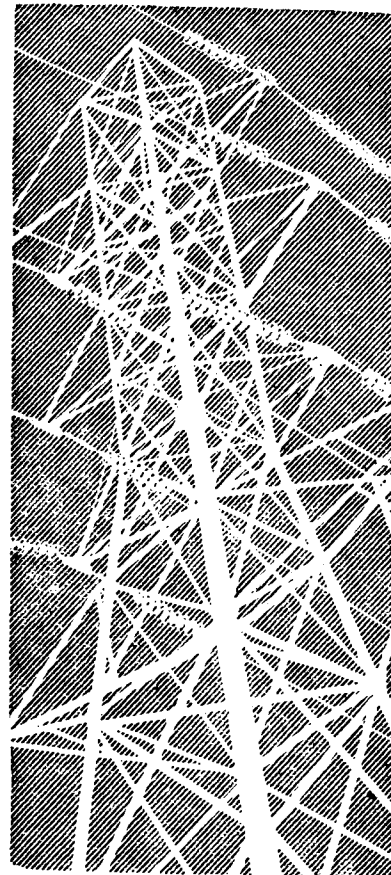
In the quest for power from the atom, India is basing its research on the results of experiments conducted in Britain, the United States and Canada. Britain boasts of the first full scale nuclear power station in the World. This power station at Calder Hall has two nuclear furnaces which produce the heat for an otherwise conventional power station. This has been operating for nearly two years and has given less trouble than is usually experienced with a conventional power station. Based on the experience gathered in building the power station at Calder Hall, four more powerful stations are being built in Britain. By 1960-61 they will be producing between them about 1,400 mega watts of electricity. Britain has got an ambitious programme to produce 25 percent of its electricity from nuclear energy by 1966 and half of its requirements by 1975.

IN UNITED STATES OF AMERICA

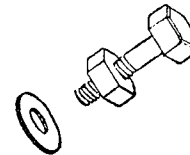
In the United States, the Shipping Port Atomic Power Plant was commissioned in

in May, 1958. This is the World's first large scale atomic reactor devoted exclusively to generating commercial electric power. This plant, at full power, generates 60,000 kilo watts of electricity enough to supply the residential needs of a community of 2,50,000 population. During a 24 hour period, the smokeless and virtually noiseless atomic power plant burns atomic energy equivalent to 3,000 tons of coal. Pressurised-water type reactor is in use here and the heat is produced here by split atoms. Four more larger atomic-electric plants are being established in the United States and they are scheduled for completion in 1960. Different types of reactors are being constructed in these power stations. This system of trying out different reactor types is to find the best and cheapest way of generating nuclear electricity. Altogether, a total of more than 7,00,000 kilo watts of atomic electric generating capacity will be installed in America by 1960.

Canada has two power reactor projects in progress. Here too, the process is still



BIG or
SMALL



save them
from
CORROSION
by

HOT DIP GALVANIZING



GOVT. GALVANIZING PLANT
METTUR DAM (Salem Dist)

in experimental and research stage. The Canadian Government offered to help India to set up a high-flux reactor of the NRX type. The decision to proceed with this joint projet was taken in August, 1955 and work started in February, 1956. The reactor is expected to go into production early next year.

THE ATOMIC ENERGY COMMISSION

India's scientists started the research on Atomic Energy from 1954. In 1948, the Atomic Energy Commission was established as an advisory body and six years later a separate department of the Government of India with the full powers of a Ministry came into being. In March, 1958 the Indian Government decided to set up an organisation with full authority to plan and implement the various measures relating to the development of atomic energy on sound and economic principles free from all non-essential restrictions or needlessly inelastic rules. Thus, the advisory body set up in 1948 has been replaced by a Commission with full execution and financial powers.

RESEARCH IN INDIA

The Atomic Energy Establishment at Trombay was formally inaugurated by the Prime Minister on 20th January, 1957. This is India's first nuclear Reactor and the first in Asia, outside the Soviet Union. This is of the swimming pool type. Since the establishment of the Department of Atomic Energy in August, 1954, research into, and development of the peaceful uses of atomic energy, have made important advances. A greatly expanded programme is envisaged, under which India is to produce all the basic materials required for the utilisation of atomic energy and to build a series of atomic power stations which will contribute increasingly, to the supply of electric power.

In the Engineering Division of the Trombay Establishment, reactor feasibility studies were made on fuel cycles and a phased atomic power programme based on indigenous nuclear fuel to suit India's resources. To make use of the plentiful supply of thorium available, a three stage programme has been considered. In the first stage, natural uranium power reactors produce plutonium. This plutonium is used with thorium in the second stage power reactors to produce uranium 233, which is fissile. In the third stage uranium 233 is used with thorium in power reactors which breed slightly more uranium 233 than they consume. Possible rates of growth of installed atomic power capacity were evaluated. The subject is discussed in some details in a paper entitled "Study of fuel cycles with reference to a Power programme", presented to the Second United Nations Conference on the peaceful Uses of Atomic Energy held at Geneva in September, 1958.

The feasibility of different reactor systems for power generation has also been looked into, and heavy water and beryllium oxide moderated gas cooled reactors have been studied quite extensively. Another reactor system which has been looked into, in some detail, is the organic moderated and cooled reactor. Organic moderators offer a number of advantages, such as a high boiling point and good heat transfer properties, and thus do not require the use of vessels capable of withstanding extremely high pressures; they also do not present any serious corrosion problem. The engineering design and economics of organic moderated reactors suitable for use with natural instead of enriched uranium are being studied. For this purpose the deuterization of the organic moderator is also being considered.

NUCLEAR MATERIALS

In the first instance nuclear power is to be produced from natural uranium in India.

But it is proposed to base the generation of nuclear power as soon as possible on thorium rather than on uranium. This country can well afford to do this while other nations are trying for alternative methods for, India is blessed with abundant and rich resources of thorium. There are large reserves of nuclear fuels, including 5,00,000 tons of thorium and 30,000 tons of uranium. The "black sands" of the Kerala coast contain ilmenite, garnet, monazite quartz, rutile and other minerals. The monazite content of these sands is 5 percent. The monazite sands occurring on the Kerala Coast are estimated to contain over 2,00,000 tons of the element. This monazite has a thorium content of 8 to 9 per cent, the highest in the World, and also contains over 0.3 per cent of uranium, which in view of the size of the deposits, makes it an important source of uranium.

MINERAL RESOURCES OF MADRAS

Apart from the sands of Kerala, monazite occurs in the sands of Kanyakumari District in Madras State. Deposits of heavy minerals consisting of monazite, rutile, ilmenite and zircon have been discovered in the sand dunes of Sathankulam, those of gulf of Mannar Beach, and the Kudirmala Reserve Forest in the Tirunelveli District. According to preliminary examination, the heavy minerals of these three dune deposits appear to be similar with regard to their percentage distribution. The Sathankulam Sands which have been examined in some detail contain about 9 percent weight of total heavies with ilmenite contributing 6.8 per cent, rutile 0.24 per cent, Zircon 2.30 per cent, and monazite 0.03 per cent. The Tio₂ content of the ilmenite is between 53-54 per cent as at Manavalakurichi.

Among the recorded occurrences of uranium mineralisation migmatite in Coimbatore District and uraniferous allanite and fergusonite bearing pegmatites and the

graphitic host rock of Rangapaliyam and Karup-at-Kevanapatti Village in the Madurai District and the deposits at Kullampatti in Salem District and are expected to contain significant quantities of ore.

THE CASE FOR MADRAS

At the end of the First Five Year Plan, the installed capacity of the State Grid was 2,56,000 K.W. The Power demand of the Madras Grid has been steadily on the increase necessitating new schemes to be taken up in succession. During the Second Plan period large scale industrial development, both in private and public sectors requiring large blocks of power has been contemplated and many industrial schemes are being implemented. Apart from these, the growing needs of the small-scale industries have to be met. As the power demand is expected to be of the order of 4,15,000 k.w. in 1960-61 and 6,00,000 k.w. in 1965-66, new power sources have to be tapped. Power from the atom is the best solution. Even though the initial outlay on the cost of establishing a nuclear power station is high there is every prospect of there being a reduction in capital cost with the advances made in designing.

WHY ATOMIC POWER?

The essential and determining consideration in favour of the atomic power programme is the fact that it will make available a sufficient quantity of plutonium, essential for the more advanced and economical type of reactors of the future. In these later stages of the programme, the capital cost of every additional kilowatt of nuclear power is estimated to be considerably less than the capital cost of obtaining the same power from coal, and even on the basis of present technology, the additional capital investment required for nuclear power during the first seven years will be offset by the saving during the following ten years, by which

time electricity from atomic power stations may be expected to cost about 2.6 np. per unit, and thus be definitely cheaper than electricity from thermal power stations (about 4.0 np. per unit). Indeed, at that stage, nuclear power stations may be competitive with thermal power stations even near coal bearing areas.

Further, while coal is a wasting asset, the completion of the first stage of power programme would enable the country to move to use of thorium and, at that stage, by the use of breeder power stations, provide the means to double the installed electrical capacity every five years for virtually an indefinite length of time if considered necessary and money were available. At that stage, the installation of new electric power would need very much less effort and money than obtaining the same power from hydro or coal.

Thus, it is seen that, in the long run, power from the atom is obtained cheaper than from the conventional methods.

PLANS OF ATOMIC ENERGY COMMISSION.

The Atomic Energy Commission has planned to establish 3 nuclear power plants in India before the end of the Third Five Year Plan. The first plant is expected to be set up near Ahmedabad in Gujarat State at a cost of Rs. 45 crores and it is expected to go into operation by the end of 1965. This plant will produce 2,50,000 kilowatts. The Atomic Energy Commission has also recommended to the Planning Commission the

setting up of power plants in Madras and Rajasthan in the Third Plan itself.

POWER FROM NUCLEAR FUSION

Apart from production of nuclear power based on natural uranium, Britain's scientists are well on the way of extracting energy from water, with the source of supply as inexhaustible as the oceans themselves. With ZETA, Britain's latest thermo nuclear apparatus, they have attained temperatures upto five million degrees centigrade, 800 times hotter than the surface of the Sun. They have thus created the intensely high temperatures at which hydrogen atoms will join. This means they have made a major advance towards harnessing the power released by nuclear fusion—the process which provides the heat of the stars.

A rough estimate indicates the potential energy available. A bucket of water contains sufficient hydrogen fusion fuel to replace 1.2 tons of coal. A day's flow of a fair-sized river would provide a country of 50 million people with power for a year or more; the oceans would supply the World's needs for countless millions of years.

The World's reserves of other fuels are relatively limited. Its coal and oil resources may be exhausted within 200 years. Known supplies of uranium and thorium, nuclear fuels for 'conventional' systems, may be consumed in 2,000 years. Hydrogen power may by that time have become the World's sole sources of large-scale energy. What is more, it will not result in accumulations of radio-active wastes like those from fission reactors.

ARUPPUKOTTAI SRI JAYA VILAS (Private) LTD.

(H.O: ARUPPUKOTTAI.)

PILLAYARPALAYAM ROAD
P. B. NO. 158
MADURAI.

23rd June 1960

Ref. No.

The Sales Manager,
Messrs. Ashok Leyland Limited,
Bank of Mysore Buildings,
N.S.C. Bose Road,
MADRAS-1.

Dear Sir,

There are fifteen Ashok Leyland Comets in our fleet of 51 buses. The first Comet was put on the road on 1-1-58. We are operating them on mofussil routes and none has experienced any major breakdown so far.

Considering the mounting passenger traffic on the one hand and the indifferent road conditions on the other we unhesitatingly say that the 203" wheelbase Leyland chassis is ideally suited to tackle both the problems. It is the only chassis available in India with the largest seating capacity (we are able to seat 66 persons in all) and it withstands the severe running strain over long distances.

In fact the dependability and economy of the Ashok Leyland Comets are so convincing that we are thinking of replacing the existing vehicles with them.

Thanking you,

Yours faithfully,
For ARUPPUKOTTAI SRI JAYA VILAS (P) LTD.,

Managing Director.

This testimonial explains Leyland's enormous popularity in over 50 countries in the world. The exacting standards of precision combined with fine craftsmanship makes Leyland the most wanted vehicle today.

**Ashok
Leyland
COMET**

- precision built to give
lasting service

ASHOK LEYLAND LIMITED
Ennore, Madras



We
thought
you might
like to
read this



**FOR QUALITY SUPER - ENAMEL WIRES
AND COTTON COVERED WIRES
CONFORMING TO ALL STANDARDS**



Service facilities available for Manufacturers



Please Contact:

Superintendent,
GOVERNMENT ELECTRICAL GOODS UNIT,
GUINDY :: MADRAS.

A DIVISION OF
DEPARTMENT
OF INDUSTRIES
& COMMERCE.

S C H E M E S

PORCELAIN INSULATORS FOR SPARK PLUGS

PROCESS DEVELOPED AT
CENTRAL GLASS CERAMIC
RESEARCH INSTITUTE,
CALCUTTA.

INTRODUCTION

Spark plugs form an integral part of an automobile engine and are used for the production of electric sparks to ignite the fuel air mixture and produce power. A spark plug has two main parts (i) a ceramic insulator and (ii) metallic parts, comprising the electrodes and the body shell. The manufacture of ceramic insulators is a specialised job. Consequently manufacture of spark plugs in India is at present based on imported ceramic bodies from abroad

Demand, Production and Imports :—

The number of motor vehicles of all types on road in India was estimated to be 4.5 lakhs in 1956-57, each vehicle requiring 4-6 spark plugs on an average. Production in 1957 was 31,932 vehicles. According to Tariff Commission, consumption of spark plugs of all types in 1955 was 15,00,000 pieces; this is expected to increase to 2 million pieces in the near future. Two firms are producing spark plugs in India by manufacturing the metal parts and importing the porcelain parts with the central electrode sealed from abroad. Their output in 1958 was 736,251 pieces.

Process :—

Manufacture of porcelain insulators for spark plugs is a guarded secret in foreign countries. Prolonged investigations at Central Glass & Ceramic Research Institute, have led to the successful development of the know-how for production of porcelain insulators for 14 m.m. automobile spark plugs from indigenous raw materials. The process of manufacture is more or less similar to that employed in the manufacture of high tension insulators, but more rigorous control over raw materials and operations is essential. Consequently their manufacture has to be organized as a separate section

removed from the general insulator manufacturing plant to avoid contamination of raw materials etc.

Characteristics of the Product:—

Spark plugs made from these insulators conform to Indian Standard specifications

- | | |
|-------------------------------|---|
| 1. Electrical Continuity | (a) all right |
| | (b) actual value 0.50 ohms |
| 2. Flash test | Satisfactory |
| 3. Insulator (flash) test | No flash or penetration of the insulator observed |
| 4. Insulator test (under oil) | Satisfactory |
| 5. Insulation Resistance | above 50 megohms |
| 6. Cold leak test | No leakage of air observed |
| 7. Hot leak test | No leakage of air observed |
| 8. Heat shock test | No crack observed |
| 9. Torque strength of thread | No breakage at throat of the sample observed. |

These insulators have been pronounced as particularly suitable for use in compression engines having compression ratios upto 1:7; the normal ratio for almost all motor vehicles produced in India. They did not show any breakdown at 21 K. V. when tested in a 8.5 m.m. ball-spark-gap.

Location, Machinery, etc.

Manufacture of porcelain insulators for spark plugs can be taken up with advantage by high tension insulator manufacturers. Independent units may also be set up if necessary. Plant and machinery required is similar to that employed in other ceramic

for 14 m.m. sparking plugs IS; 1062 and 1063 of 1957. Their performance has also been found comparable to that of imported spark plugs. Following results have been reported of tests carried out in accordance with I. S. specification 1062.

industries and is available locally; only tunnel kilns will have to be imported. Further mechanisation and speeding up of production is possible by importing spark plug turning lathes and automatic glazing machine.

Parties interested in undertaking the commercial development of the process are invited to correspond with:

The Secretary,
National Research Development
Corporation of India,
Mandi House, Lytton Road,
New Delhi - 1.

Transistorised Community Receiver

Battery operated community receivers are being installed in rural areas to provide community listening facilities in villages. So far, nearly 50,000 such receivers have been installed and additional 12,000 are being installed every year. Power for running these sets is obtained from batteries which is an expensive source of energy. On an average three batteries are being consumed per set every year. Consequently the operating cost of such receivers is high.

The use of transistors results in battery saving for the following reasons:

- (1) Transistors do not require any filament power;
- (2) The standby power drain of a transistor audio stage is lower than valve stage;
- (3) The valve set requires two battery sections and one section will in general reach the end point earlier than the other, with the result that the available power in the other section is thrown away, and
- (4) The ratio of the useful output at reduced voltage to useful output at normal voltage is better with transistors. The battery can, therefore, be

drained further, i.e., used for a much longer period.

In the case of transistors, it is necessary to use neutralising circuits and also special circuit arrangements for stabilising band-pass characteristics of the H. F. and I. F. stages of the receiver. The transistors suitable for use in H. F. stages are very expensive.

A Community Receiver has been developed which is economical in initial fabrication cost and which does not involve extensive instrumentation facilities in production plants. The main feature of the design is the use of valves in H. F. stages and transistors in L. F. stages. The receiver uses a mixer and I. F. stage similar to existing community receiver, modifications being introduced in the stages that follow.

UMBRELLAS
EBRAHIM CURRIM & SONS
STAG BRAND UMBRELLA MANUFACTURERS & MERCHANTS
No. 251-53, CHINA BAZAAR ROAD,
P. B. No. 186 :: MADRAS-1.

The receiver, both in design and performance, conforms to Indian Standard Specifi-

cation (I. S. 705/1955). Among others it possesses the following characteristics :

1. Limit frequencies of tuning ranges :
 - (i) 535—1605 Kc/s
 - (ii) 3.2—3.4 Mc/s
 - (iii) 4.75—5.06 Mc/s
 - (iv) 5.95—6.2 Mc/s
 - (v) 7.1—7.3 Mc/s
 - (vi) 9.5—9.775 Mc/s
2. Frequency Drift : Less than 1.5 Kc/s at 9.6 Mc/s
3. Maximum useful output : 1200 m W at normal voltage
660 m W at reduced voltage
4. Maximum output : 1300 m W at normal voltage
700 m W at reduced voltage.
5. A. G. C. figure of merit : 36 db.
6. Selectivity : at + 9 Kc/s off greater than 25 db.
at + 18 Kc/s off greater than 44 db.
7. Frequency response : within + 8 db 100 c/s to 4500 c/s.
8. Sensitivity: (in microvolts) Less than 33 at normal voltage.
Less than 84 at reduced voltage.
9. I.F. Interference ratio : Greater than 50 db.
10. Image Ratio : Greater than 35 db on M.W.
Greater than 20 db on S.M.

The receiver requires only 1300 m W of average battery power against 2300 m W required by a valve type community receiver, thereby effecting a saving of more than 40% in the running cost of electric energy.

Parties interested in taking up the commercial development of the new design for

community receivers are invited to correspond with :

The Secretary,
National Research Development,
Corporation of India,
Mandy House, Lytton Road,
New Delhi-1.

THE
MYSORE TOBACCO Co. LTD.
BANGALORE-9

★
CURERS, PACKERS & GRADERS OF
HIGH GRADE VIRGINIA TOBACCO

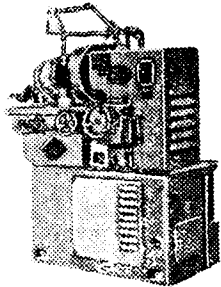
U.S.S.R.

METAL WORKING MACHINE TOOLS

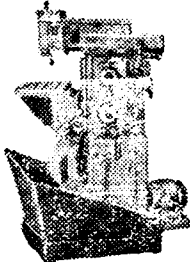
for
ENGINEERING INDUSTRIES
& RAILWAY WORKSHOPS

EXPORTED BY
V/O STANKOIMPORT
MOSCOW, U.S.S.R.

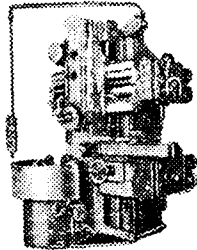
★
SOLE AGENTS
DOWER TOOLS & APPLIANCES CO.
2, DALHOUSIE SQUARE EAST, CALCUTTA-1
BRANCHES :
BOMBAY - DELHI - MADRAS



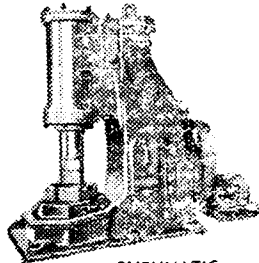
TWIST DRILL GRINDER



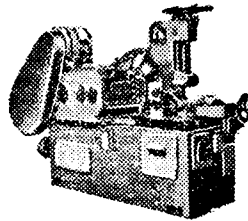
TOOL MILLING MACHINE



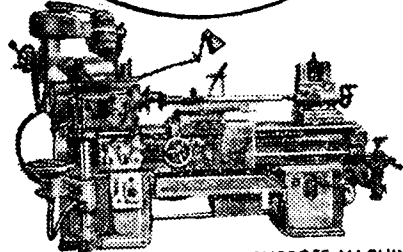
VERTICAL TURRET LATHE



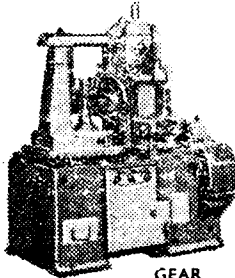
PNEUMATIC FORGING HAMMER



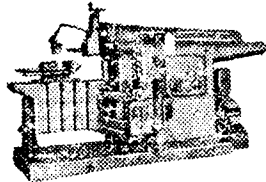
HYDRAULIC COLD SAW



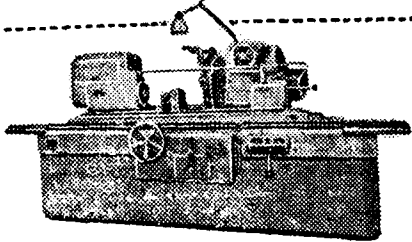
MULTIPURPOSE MACHINE



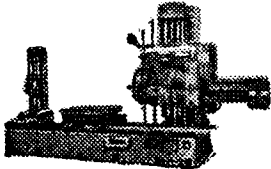
GEAR HOBBER



HYDRAULIC SHAPER



CYLINDRICAL GRINDER



HORIZONTAL BORING MILL

Chemical Testing & Analytical Laboratory
INDUSTRIAL ESTATE :: GUINDY, MADRAS-16.

Phone No. 80641—Extn. 5

A DIVISION OF THE DEPARTMENT
OF INDUSTRIES AND COMMERCE



Undertakes for the public :

Testing and analysis of Minerals,
Ores, other Industrial Raw materials
and Finished products, Sampling of
ores and Minerals at Pit heads, Ports,
Loading Stations etc. according to
international methods of sampling
and issues Appropriate Certificates.



Also offers :

ADVICE ON CHEMICAL & ALLIED PROBLEMS OF INDUSTRY

For detailed information apply to :

**THE CHIEF CHEMIST,
CHEMICAL TESTING & ANALYTICAL LABORATORY**
INDUSTRIAL ESTATE, GUINDY, MADRAS-16.

Loans To Small Scale Industries :
Guarantee of Credit

The Union Government's scheme for the
guarantee of advances granted to
Small Scale Industries by approved
credit institutions has come into force
with effect from 1—7—1960.

The scheme has been sanctioned on an
experimental basis for a period of two years.
The object of the scheme is to enlarge
the supply of institutional credit to Small-
Scale Industrial units by granting a degree
of protection to the leading institutions
against possible losses in respect of such
advances. The scheme provides for sharing
of losses between the leading institutions
and the Government of India, subject to the
condition that the maximum amount
recoverable against the guarantee issued
under the scheme in respect of any one
advance will not exceed Rs. 1 lakh.

2. The Reserve Bank of India has been
entrusted with the administration of the
scheme as agent of the Government of
India and has been designated as *Guarantee
Organisation* for this purpose. The entire
work connected with the scheme will be
attended to by Guarantee Organisation

Division of the Bank's Industrial Finance
Department at Bombay.

3. To start with, the scheme will be op-
erative in the 22 selected districts listed in
Annexure I. These approved districts have
been selected on the basis of the relative
importance of outstanding loans to Small-
Scale Industrial units and the potentiality
for further expansions of such loans. The
question of expansion of the list of approved
districts will be considered after the scheme
has been in operation for some time.

For the present, the credit institutions
listed in Annexure II have been selected
for the grant of facilities under the scheme.
Banks and credit institutions other than
those selected may also avail themselves of
the guarantee facility in respect of advances
granted by them provided a selected credit
institution participates in such advances to
the extent of not less than 25% of the

amounts thereof. It will also be permissible for two or more selected credit institutions to grant an advance jointly. However, in respect of an advance granted jointly by a selected credit institution and a non-selected institution, the Guarantee Organisation will deal only with the former institution while in the case of an advance granted jointly by two or more selected institutions, the Guarantee Organisation will deal only with one of them which has been nominated by all the institutions for the purpose.

4. For the purpose of the scheme, a Small-Scale Industrial Unit is one whose investment of a capital nature, including the value of rented premises, if any, but excluding the amounts spent on housing and amenities for workers, is not in excess of Rs. 5 lakhs and whose principal place of manufacture, processing or other operation is located in an approved district. The guarantee may be furnished in respect of advance to such units repayable on demand or on the expiry of a fixed period *Not Exceeding Seven Years* and sanctioned on or after the 1st July 1960. In the case of advances sanctioned prior to the above date, the guarantee may be obtained for normal and bonafide renewal of enhancement of the limit after that date, if the past record of the advance has been satisfactory. The advances may be for the purpose of acquiring fixed assets or equipment or for providing working capital. It is an essential condition of guarantee that the advance shall not be utilised for a purpose other than that for which it was granted.

5. Application for guarantee may be made before or after sanctioning an advance. The application should, in the first instance, be for one year or, in the case of a loan for a fixed period exceeding one year, for the period of the loan at the option of the credit institution. The initial period of the

guarantee may be extended for a further period of six months or a multiple thereof at a time, but the total duration of a guarantee shall not in any case be in excess of seven years from the date on which the advance has been first availed of.

6. The charge for providing the guarantee cover will be at the rate of one quarter of one per cent per annum on the maximum amount of advance (or limit) as sanctioned and is payable in advance to the Guarantee Organisation for the period for which the guarantee cover is sought. The charge has been kept low in the experimental phase of the scheme with a view to providing an added incentive to credit institutions for enlarging finance to small-scale industries.

7. In operating the scheme, the Guarantee Organisation, will as far as possible, ensure that delays and formalities are reduced to the minimum and claims made under the guarantee are paid within 30 days of receipt of the required supporting evidence. The responsibility for collection of the debt after the invocation of the guarantee will be that of the credit institution which should take such steps for recovery as may be necessary or as may be required by the Guarantee Organisation. The institutions will also furnish such information or returns in respect of the guaranteed advances as may be required by the Organisation.

8. The recoveries will be shared between the Guarantee Organisation and the lending institution in the manner prescribed under the scheme. In the interests of administrative simplicity and maximum effectiveness, the scheme relies primarily on the judgment and good faith of the lending institutions in respect of both the making and the recovery of advances.

9. The entire scheme including the type and extent of guarantee and charge therefor will be reviewed at the end of the experimental period of two years.

10. Communications in respect of any clarification of further information on the scheme may be addressed to :

The Chief Officer,
Industrial Finance Department,
Guarantee Organisation Division,
Reserve Bank of India,
Central Office,
Post Box No. 406,
BOMBAY-1.

ANNEXURE—I

List of Districts in which the scheme will be introduced initially

District	State
1. Agra	Uttar Pradesh
2. Ahmedabad	Gujarat
3. Amritsar	Punjab
4. Bangalore	Mysore
5. Calcutta	West Bengal
6. Coimbatore	Madras
7. Cuttack	Orissa
8. Delhi (Union Territory)	Delhi
9. Gird	Madhya Pradesh
10. Greater Bombay	Maharashtra
11. Howrah	West Bengal
12. Hyderabad	Andhra Pradesh
13. Jaipur	Rajasthan
14. Kamrup	Assam
15. Kanpur	Uttar Pradesh
16. Kolhapur	Maharashtra
17. Krishna	Andhra Pradesh
18. Ludhiana	Punjab
19. Madras	Madras
20. Ranchi	Bihar
21. Surat	Gujarat
22. Trivandrum	Kerala

ANNEXURE—II

List of credit institutions specified for the grant of facilities under the scheme

A. BANKS:

(i) *State Bank of India and its subsidiaries:*

1. State Bank of India
2. State Bank of Bikaner
3. State Bank of Hyderabad
4. State Bank of Indore
5. State Bank of Jaipur
6. State Bank of Mysore
7. State Bank of Patiala
8. State Bank of Saurashtra
9. State Bank of Travancore.

(ii) *Other Banks:*

1. Allahabad Bank Ltd.
2. American Express Co. Inc.
3. Andhra Bank Ltd.
4. Bank of Baroda Ltd.
5. Bank of China
6. Bank of India
7. Bank of Maharashtra Ltd.
8. Bank of Rajasthan Ltd.
9. Bank of Tokyo Ltd.
10. Bareilly Corporation (Bank) Ltd.
11. Belgaum Bank Ltd.
12. British Bank of the Middle East
13. Canara Bank Ltd.
14. Canara Banking Corporation Ltd.
15. Canara Industrial & Banking Syndicate Ltd.
16. Central Bank of India Ltd.
17. Chartered Bank
18. Comptoir National D'Escompte de Paris
19. Devkaran Nanjee Banking Co. Ltd.
20. Eastern Bank Ltd.
21. First National City Bank of New York
22. Hongkong & Shanghai Banking Corporation
23. Indian Bank Ltd.
24. Indian Overseas Bank Ltd.
25. Karur Vysya Bank Ltd.
26. Krishnaram Baldeo Bank Ptv. Ltd.
27. Kumbakonam Bank Ltd.

28. Lakshmi Commercial Bank Ltd.
29. Laxmi Vilas Bank Ltd.
30. Lloyas Bank Ltd.
31. Mercantile Bank Ltd.
32. Miraj States Bank Ltd.
33. Mitsui Bank
34. National & Grindlays Bank Ltd.
35. National Bank of Pakistan
36. Netherlands Trading Society
37. New Bank of India Ltd.
38. Pandyan Bank Ltd.
39. Punjab National Bank Ltd.
40. Sangli Bank Ltd.
41. South India Bank Ltd. (Tirunelveli)
42. South Indian Bank Ltd.
43. Tanjore Permanent Bank Ltd.
44. Union Bank of India Ltd.
45. United Bank of India Ltd.
46. United Commercial Bank Ltd.
47. United Western Bank Ltd.
48. Vijaya Bank Ltd.
49. Vysya Bank Ltd.

(iii) *State Co-operative Banks:*

1. Andhra State Co-operative Bank Ltd.
2. Assam Co-operative Apex Bank Ltd.
3. Bihar State Co-operative Bank Ltd.
4. Bombay State Co-operative Bank Ltd.
5. Delhi State Co-operative Bank Ltd.
6. Gujarat State Co-operative Bank Ltd.
7. Himachal Pradesh Co-operative Bank Ltd.
8. Hyderabad Co-operative Apex Bank Ltd.
9. Jammu and Kashmir State Co-operative Bank Ltd.

10. Kerala State Co-operative Bank Ltd.
11. Madhya Pradesh State Co-operative Bank Ltd.
12. Madras State Co-operative Bank Ltd.
13. Manipur State Co-operative Bank Ltd.
14. Mysore State Co-operative Apex Bank Ltd.
15. Orissa State Co-operative Bank Ltd.
16. Pondicherry State Co-operative Bank Ltd.
17. Punjab State Co-operative Bank Ltd.
18. Rajasthan State Co-operative Bank Ltd.
19. Tripura State Co-operative Bank Ltd.
20. Uttar Pradesh Co-operative Bank Ltd.
21. Vidarbha Co-operative Bank Ltd.
22. West Bengal Provincial Co-operative Bank

B. STATE FINANCIAL CORPORATIONS:

1. Andhra Pradesh State Financial Corporation
2. Assam Financial Corporation
3. Bihar State Financial Corporation
4. Bombay State Financial Corporation
5. Jammu and Kashmir State Financial Corporation.
6. Kerala Financial Corporation
7. Madhya Pradesh Financial Corporation
8. Mysore State Financial Corporation
9. Orissa State Financial Corporation
10. Punjab Financial Corporation
11. Rajasthan Financial Corporation
12. Uttar Pradesh Financial Corporation
13. West Bengal Financial Corporation
14. Gujarat State Financial Corporation.

C. OTHER INSTITUTIONS:

1. Madras Industrial Investment Corporation Ltd.

PHARMACEUTICALS

AMRUTANJAN

FOR ALL ACHES & PAINS

Messrs. AMRUTANJAN LTD.,
Nos. 14 & 15, Luz Church Road, MADRAS - 4

STEEL RE-ROLLING MILLS

(ENCOURAGEMENT TO SMALL UNITS)

With a view to relieving the shortage of iron and steel in the country, the Government of India have decided to encourage small industrial units which use such re-rollable scrap as may be locally available as raw material. Normally such units will have to obtain licences under the Industries, (Development and Regulation) Act, 1951 and permission under Iron and Steel Control Order, 1956. But the Government of India have issued a notification No. SC(A) 1 (28)/59, dated 4th June 1960 relaxing the provisions of the Iron and Steel Control Order, 1956, in respect of small units so as to allow increased use of locally available scrap to meet the demand in the immediate vicinity, for a number of articles of iron and steel in day-to-day use.

2. According to the notification, no prior approval of the Iron and Steel Controller or the Government of India is necessary in the case of (1) any person employing less than 50 persons, to erect,

re-erect, construct or extend any building or works, to instal any plant or equipment for the production of the following categories of iron and steel, viz., Wire (Plain), black or galvanised and Bars including flats, squares, rounds, hexagons and rods; and (ii) in the case of any person employing less than 100 workers and having fixed assets, that is investments in land, buildings and machinery, not exceeding rupees ten lakhs value, to erect, re-erect, construct or extend any buildings or works, or to instal any plant or equipment for the production of the following categories of iron and steel, viz., Steel castings, Dog Spikes, Chair Spikes and Screw Spikes, Bolts (including fish bolts), Nuts and rivets, Barbed wire (black or galvanised) Wire nails, Wrought iron pressure pipes and tubes, Wrought iron fittings, malleable iron fittings, and steel fittings, coated or uncoated excluding electric conduit pipes, Cast iron pressure pipes specials and Wire ropes.

SETTING UP NEW UNITS FOR MANUFACTURE OF GAS CYLINDERS

The Government of India have decided to permit the setting up of units for the manufacture of gas cylinders in the country.

The decision has been taken in view of the large-scale expansion in the production of various industrial gases likely in the next few years and the corresponding rise in the domestic demand of cylinders for bottling

and transporting these gases. While the sizes and specifications of the cylinders vary according to the nature of the gases, it has been estimated that by the end of the Third Plan, about a lakh of cylinders would be required. By the end of the Fourth Plan, the domestic requirement would be double this number.

In forwarding their proposals for Government approval, intending entrepreneurs have been asked to indicate particularly what arrangements they have made for importing the required capital equipment. The Government would prefer import of capital equipment through the utilisation of the share of the foreign collaborator in the capital structure of the scheme. Import of capital machinery and equipment required for the project under long-term credit arrangements or long term deferred payments acceptable to Government or through

Rupee Payment Arrangements will also be considered.

The applicants should also indicate the terms of royalty and other technical fee which involves payment in foreign exchange. Details regarding the manufacturing process, arrangements for securing necessary raw materials etc., should also be furnished.

The proposals may be forwarded to the Union Ministry of Commerce and Industry as early as possible before the close of this year (1960).

TARIFF PROTECTION FOR WOOD SCREW INDUSTRY TO BE DISCONTINUED AFTER DECEMBER 31, 1960

The Government of India have accepted the Tariff Commission's recommendation that protection to the wood screw industry need not be continued beyond 31st December 1960.

In the resolution of the commission's Report, which has been published, Government have also taken note of the recommendation that steps should be taken to ensure that no export of wood screws takes place, unless accompanied by a proper test certificate regarding its quality and proper packing.

Government have also drawn the attention of the wire manufacturers to the Commission's recommendation that, in the context of increased supply of billets to them, they should endeavour to meet more fully and expeditiously the demand of the wood screw manufacturers for steel wire. The need for taking urgent steps to improve the quality of wire rods and wire and conform to Indian Standard Specifications has also been stressed.

Background :

Protection to the wood screw industry, first granted in 1947, was extended from time to time and the current period is due to expire on 31st December 1960.

The combined output of wood screws in both the large-scale and small-scale sectors rose from 8.5 million gross in 1957 to 9.9 million gross last year.

There are at present 23 units in the large-scale sector with total rated capacity (on a single shift basis) of about 7.8 million gross. In addition, there are about 28 units in the small-scale sector and their capacity is estimated at about one million gross wood screws a year.

The commission has estimated the domestic demand at about 11 million gross for 1960. The demand is expected to increase by at least one million gross per annum reaching 14 million gross in 1963.

AUTOMOBILE HAND TYRE INFLATOR INDUSTRY PROTECTION TO BE DISCONTINUED FROM NEXT YEAR

The Government of India have accepted the Tariff Commission's recommendation that protection to the automobile hand tyre inflator industry need not be continued beyond December 31, 1960.

Government's resolution on the Commission's report has been published.

In the resolution, Government have drawn the attention of the Indian Standards Institution to another recommendation of the Commission that I. S. I. should take up the formulation of a standard for seamless brass tubes required for the industry.

Background :

There are at present six units—four in the large-scale sector and two in the small-scale sector—manufacturing automobile hand tyre inflators. The annual rated capacity of these units has been estimated by the Commission at 85,200 for hand tyre inflators and 96,000 for pump connections. As against this, the actual production in 1959 amounted to 47,784 hand tyre inflators and 48,906 pump connections.

The Commission has estimated the current annual domestic demand at 55,000 inflators and 1,50,000 pump connections. It has observed that the demand for inflators will be stable on this level, except for a slight upward trend.

CALCIUM LACTATE INDUSTRY TO BE DE-PROTECTED AFTER 31st DECEMBER 1960

The Government of India have accepted the Tariff Commission's recommendation that protection to the calcium lactate industry need not be continued beyond 31st December 1960.

The Government's resolution on the Commission's report has been published.

Background :

There are two units in the country producing calcium lactate at present. Together,

their annual rated capacity amounts to 181 tons. Domestic production, which was about 53 tons in 1957, increased to 98 tons in 1959.

The Tariff Commission has estimated the domestic demand for calcium lactate at 105 tons for the current year (1960). This is expected to rise to 150 to 175 tons. Sufficient capacity exists to meet this rise in indigenous demand.

PORCELAIN INSULATORS FOR OVERHEAD LINES

The Indian Standard Specification for Porcelain Insulators for Overhead Lines with a nominal voltage below 1000 volts (Is : 1445-1959) recognizes two types of both pin and shackle insulators with a view to limiting their number. Those included, represent the most popular types manufactured and used in the country. To achieve uniformity of manufacture, important overall dimensions have been rationalized.

This standard specifies insulator characteristics and prescribes methods of test and acceptance criteria for the porcelain insulators. It does not deal with the choice of insulators for specific operating conditions which are proposed to be covered separately in a code of recommended practice for selection and maintenance of insulators. It also does not apply to insulators forming part of electrical apparatus or to porcelain parts used in their construction.

MINIMUM PERFORMANCE REQUIREMENTS OF MAINS-OPERATED PUBLIC ADDRESS AMPLIFIERS

The object of IS: 1490-1959, Recommendations for Maximum Performance Requirements of Mains-Operated Public Address Amplifiers is to lay down certain minimum levels of electrical performance that should be expected of moderately priced public address amplifiers intended for general purposes and designed for operation from electric mains supply.

The standard does not include general requirements such as impedance tapings, types and number of controls, marking, etc.

These requirements will be covered in another Indian Standard on General Requirements for Audio Amplifiers which is under preparation

The values recommended in this standard have been so chosen that an average amplifier, designed and assembled with due regard to good engineering practice will satisfy the requirements. The practical limitations which the designer and the assambler are likely to come across have also been given due consideration.

HANDLOOM COTTON FLOOR DURRIES

I. S. I. STANDARD PUBLISHED

The Indian Standards Institution has published a specification for handloom cotton floor durries to help the producers in manufacturing durries of defind quality. The standard prescribes constructional details and other particulars of four varieties of durries, but does not specify the general appearance, feel and colour of the durry.

The progress of the handloom industry depends to a large extent on quality of material and this standard would be helpful in this respect.

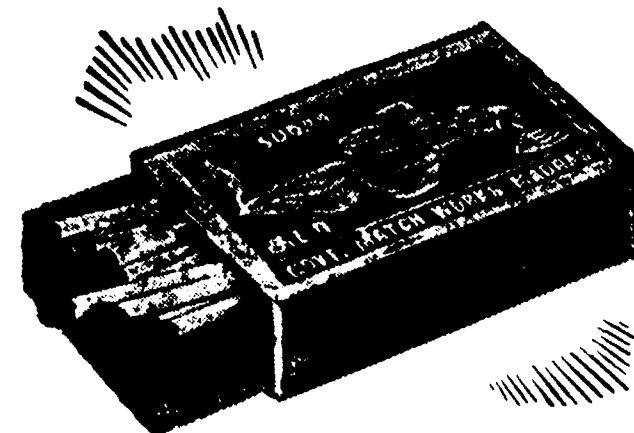
Copies of the standard are available from the office of the Indian Standars Institution, New Delhi, or from its branch offices located at Bombay, Calcutta and Madras.

IND-COM JOURNAL

Sudar

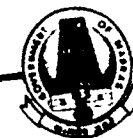
MATCHES

40's & 60's



Manufactured by :

GOVERNMENT MATCH WORKS
PERAMBUR
MADRAS



SISTAS-MM-1

JULY-SEPTEMBER 1959

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 & CUTLERY INDUSTRY, KUMBAKONAM.

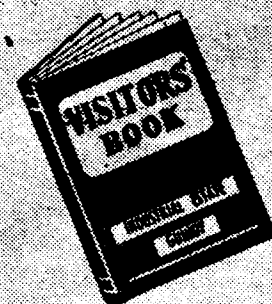
**A UNIT OF THE SMALL-SCALE INDUSTRIES,
GOVERNMENT OF MADRAS.**



Mr. P. Lakshminarayana, Director of Small Industries, Madras, inspecting the work of the artisans at the Brassware Servicing Centre, Kumbakonam.



The staff of the Brassware Servicing Centre, Kumbakonam.



What they say . . .



"Very interesting . . ."

All very interesting and instructive.

Rajendra Prasad,
President of India.

"One of the most inspiring . . ."

One of the most inspiring and significant developments I have seen in India.

Ellsworth Bunker,
U. S. Ambassador to India.

"One of the best in East . . ."

I happened to go round this Estate this evening. I am tremendously impressed about its progress, growth and development. Almost all the Units are engaged in manufacturing all types of goods intended both for home uses and commercial purposes. I am sure in the future years this Estate would develop as one of the best in East. I wish all success. My best compliments to all those who are associated with its progress, design and development.

K. S. G. Maja Shariff, M.L.A.
41, Lingi Chetti Street, Madras.

JULY-SEPTEMBER 1960

"Glad to record its admiration . . ."

The U.A.R. Delegation to the 2nd Labour Workers Conference, Madras, is glad to record its admiration of the advanced and developed industries which this Industrial Estate so clearly demonstrates—the extent which the great Indian Nation can achieve by will power and determination.

A. Elnaser,
Labour Adviser, U.A.R. Embassy, New Delhi.

"Extremely neat and tidy . . ."

I have had great pleasure indeed in going round the Industrial Estate. It is extremely neat and tidy and one can learn a lot here.

K. N. Srivastava, I.A.S.,
Additional Director of Industries,
U.P., Kanpur.

"Inspiring Project . . ."

A more interesting morning and a more inspiring Project.

O. G. Foster,
U.K. High Commission, Madras.

"Marvellous strides . . ."

I was taken round the Industrial Estate. Within a short time, it has made marvellous strides. It is an eye opener to the other states. There is much to learn here and I feel other states should send their people over here so that they will have necessary training in the field of the introduction of Small Scale Industries and the Management of them. I really congratulate the Government of Madras, especially the Director of Industries and his immediate subordinates over their achievements.

J. R. Kanthi,
Speaker, Mysore Legislative Assembly,
Bangalore-1.

"Tremendous progress . . ."

Tremendous progress now being made.

J. William and H. Hunter,
Hoover Ltd., England

"Creditable achievement . . ."

A creditable achievement.

A. G. Menon,
Chief Secretary, Kerala.

"Very Impressive . . ."

A very impressive institution altogether.

Michel J. Hopfman,
The World Bank.

Peter Wright,
Marinus Vander Mel.

"Very good effort . . ."

Very good effort by the Government, and very impressive work by all proprietors and workers.

B. H. Benn,
Minister of Natural Resources,
British Guiana, South America.

"Very much value the experience . . ."

I was taken round this Industrial Estate and I very much value the experience of seeing the working of 2 or 3 industries of special types which will, I am sure, contribute to the growth of very many Industries and the consequent prosperity for society at large.

A. P. C. Veerabahu, M.L.A.

"Very much impressed . . ."

Visited the Estate and saw some of the enterprises and the Exhibition. I was very much impressed by the progress made in the development of all essential industries of the country.

B. H. Nallaswami, M.L.C.,
Bhavan.

"Hope in action . . ."

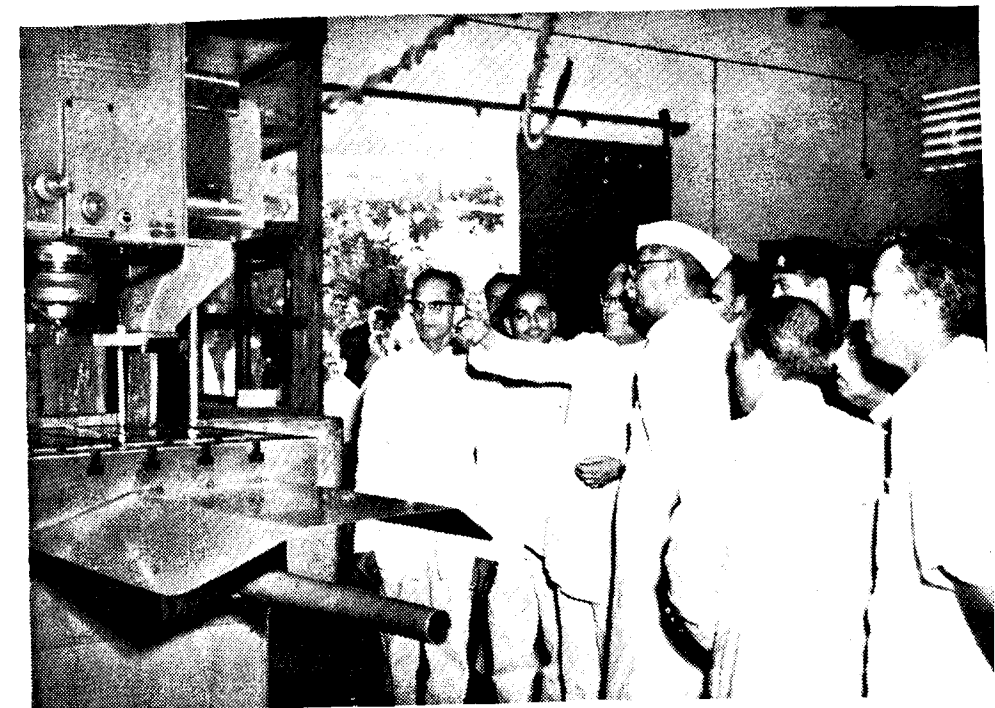
This is hope in action.

C. J. Parakk,
Material Handling Productivity Team.

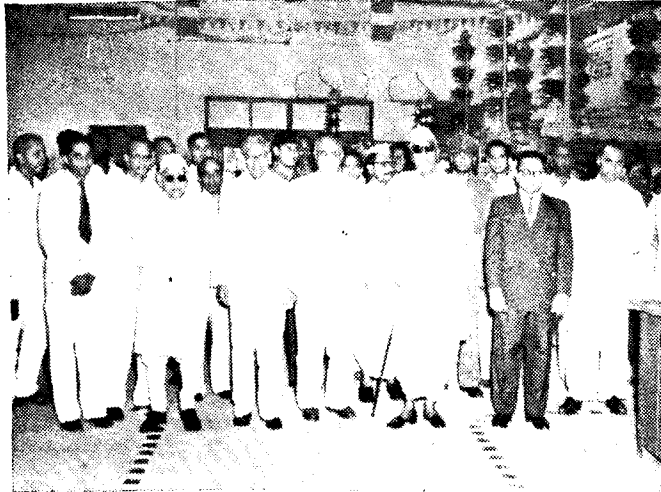
IND-COM JOURNAL



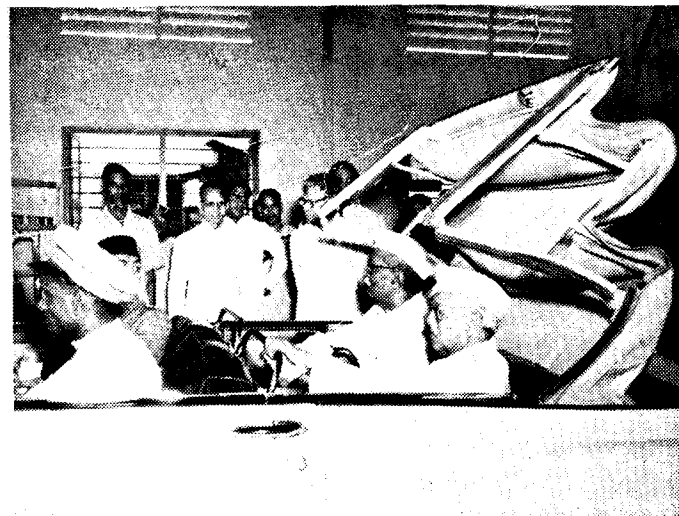
The group of people, including men and women, standing behind a long table covered with a white cloth, looking at various items on the table, which appear to be small objects or products. The setting is outdoors, with a building and trees in the background.



The group of people, including men and women, standing in a line, looking at a large, dark, rectangular object, possibly a piece of machinery or a large box. The setting is outdoors, with a building and trees in the background.



The President of India, Dr. Rajendra Prasad, with the Governor of Madras, Shri Bishnuram Mehdi, and other officials at the Industrial Estate, Guindy.



The President of India, Dr. Rajendra Prasad, examining the products of the Industrial Estate, Guindy.

The President Visits Guindy Estate

The President of India, Dr. Rajendra Prasad, visited the Industrial Estate at Guindy on the 16th August, 1960. On arrival at the Estate Exhibition Hall, the President, who was accompanied by Shri Bishnuram Mehdi, Governor of Madras, was received and garlanded by Shri R. Venkataraman, Minister for Industries, Madras.

Shri T. K. Palaniappan, Secretary to Government, Industries, Labour and Co-operation, explained to the President the essential features of the Estate. The President spent nearly half an hour in the Exhibition Hall where the products manufactured both by the Government and private Units in the Estate were on show. The President evinced keen interest in the products of the Government Tool Room, Government Glass Factory and the Government Sports Goods Unit. A novel doll, the original of which was brought by the

State Industries Minister from Japan and duplicated by the Government Sports Goods Unit, attracted the President's attention and he made known the purchase by him of a similar doll during his visit to Russia. 16 m.m. projectors, 35 m.m. projectors, radios, automobile parts, electrical fittings, spectacle frames, electronic equipment etc., manufactured in the private factories in the Estate gained appreciation of the President.

The Government Tool Room, Glass Factory and the Electrical Goods Unit, the Hivelm Industries, Eswaran & Sons Agencies, Southern Forgings, Resa Radio Company, Amco Engineering Corporation and Elite Optical Industries were among the Units visited by the President.

After going round the Estate, the President recorded his impressions in the Visitors' Book as "very interesting and instructive".

Yet Another Government Unit For

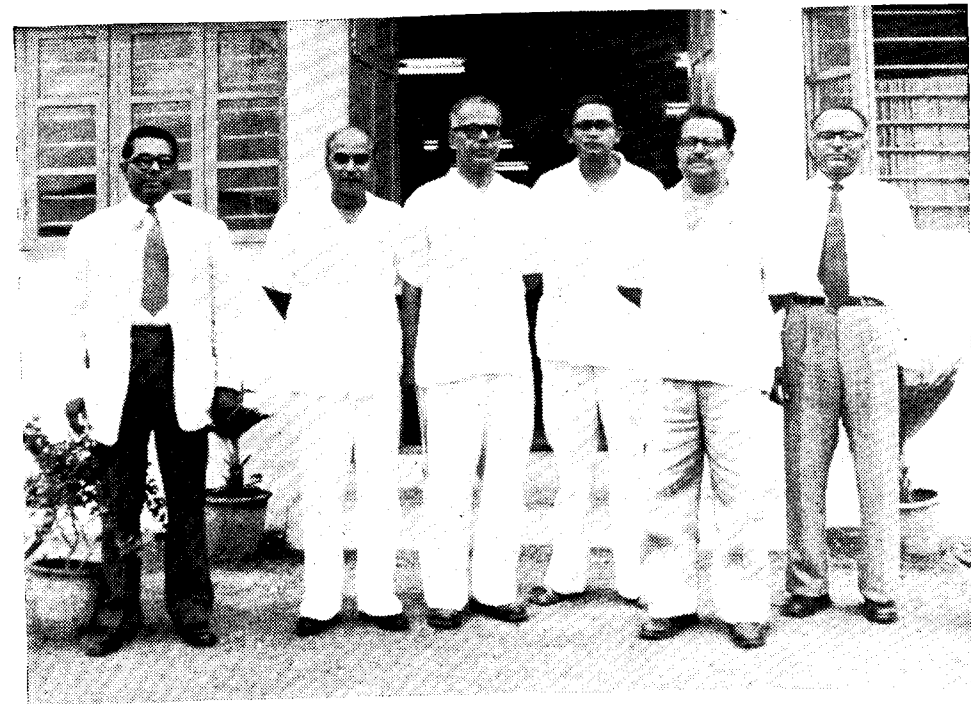
SERVICING AND MANUFACTURING

Cycle Accessories, Tube light fitting shades, Steel Furniture and Household Equipments, Agricultural Implements, Hospital Equipments, Electrical line construction materials using modern machinery like Milling machine, Shaping machine, Surface grinder, Treading machine, Bandsaw machine, Lathe, Muffle Furnace, Guillotine, Shearing Machines, Power Press Etc., Etc.



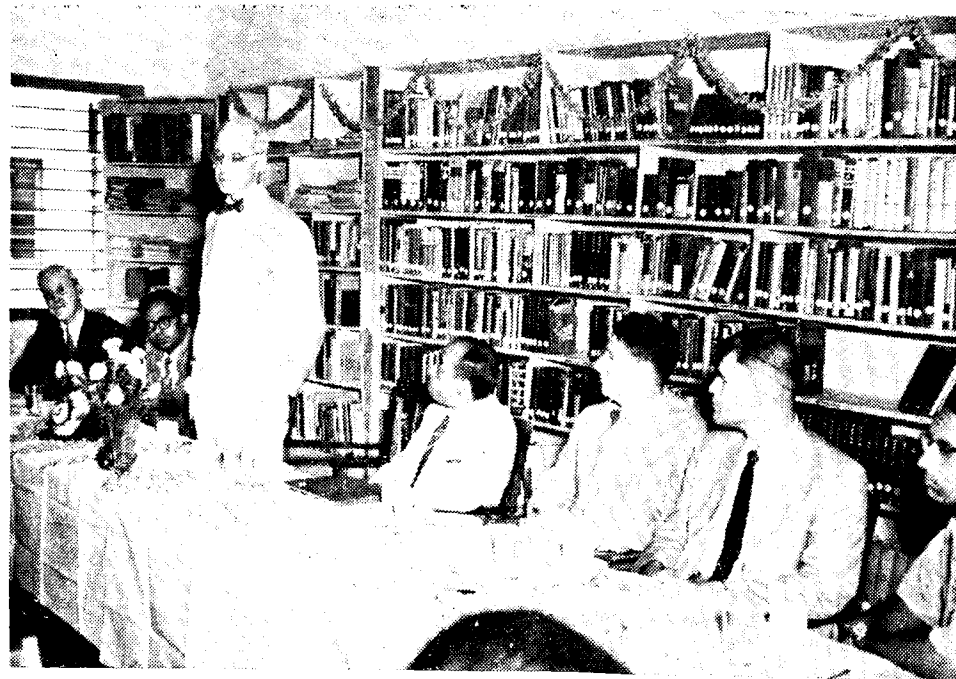
Please Contact :
The Superintendent,
GENERAL PURPOSE ENGINEERING WORKSHOP,
RAJAPALAYAM.

A UNIT OF THE SMALL SCALE INDUSTRIES.
GOVERNMENT OF MADRAS



Suppose that M is a C^1 manifold, Γ is a closed submanifold of M , K is the kernel of $\mathcal{L}$ and $\mathcal{L}^*$ is the adjoint of $\mathcal{L}$. Let g be the metric tensor on M and D_x denote the directional derivative in the direction of x .


$$T_{\mathcal{A}} = D^{-1} \mathcal{A} D = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}, \quad T_{\mathcal{B}} = D^{-1} \mathcal{B} D = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}, \quad S_{\mathcal{A}} = D^{-1} \mathcal{A}^T D = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}.$$



The U.S. Ambassador, Mr. Ellsworth Bunker, is seen here with the members of the Manufacturers' Association of the Estate.



The U.S. Ambassador, Mr. Ellsworth Bunker, is seen here with the members of the Manufacturers' Association of the Estate.

U. S. AMBASSADOR AT GUINDY

"The Indo—U.S. Co-operation represents a partnership between the two great Democracies of the world which explores the possibilities of progress on the basis of equality and Freedom" observed Mr. Ellsworth Bunker, the U.S. Ambassador in India, when he addressed the Industrialists at the Technical Information Section Hall during his visit to the Industrial Estate, Guindy on 11th August, 1960. He pointed out that small Industries play a paramount part in the U.S. as feeder industries and that big industries, partially or wholly, rely on Small Scale Industries for their component parts and he visualised a similar future for the Small Industries in India also. He observed that what was significant was not that the aid was given but the fact that a greater use was made of it.

Mr. Ellsworth Bunker who was accompanied, among others, by Mr. Thomas

W. Simons, the U. S. Consul-General in Madras, was received and garlanded by Sri T. R. Krishnaswamy, Director of Industries and Commerce (in charge). The Officers of the Department as well as the Office Bearers of the Industrial Estate Manufacturers' Association were then introduced to the Ambassador. The Estate Exhibition Hall, where products manufactured by the various Units of the Estate were on display, Tool Room, Common Lease Shop, M/s Elite Optical Industries and M/s Eswaran & Sons, were some the Units he visited at the Estate.

Later, the Ambassador had tea with the members of the Manufacturers' Association of the Estate.

"One of the most inspiring and significant developments I have seen in India" was the observation made by the distinguished visitor at the conclusion of his visit.

SWEETMEATS

Telephone : 22876

Gram : Kamar Halwa

HIGH CLASS SWEETS AND BEST BOMBAY HALWA

(GUARANTEED SIX MONTHS)

DAILY FRESH FROM THE OVEN—
BEAUTIFUL PRESENTATION BOXES

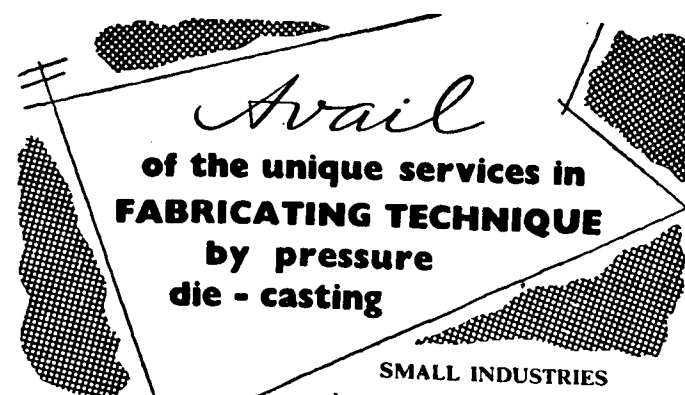
ROYAL FANCY SWEET MEAT SALOON

Opp. Crawford Market, Bombay - 3.

Tel : 71072

Branch :—Wasiamal Building, Grant Road,

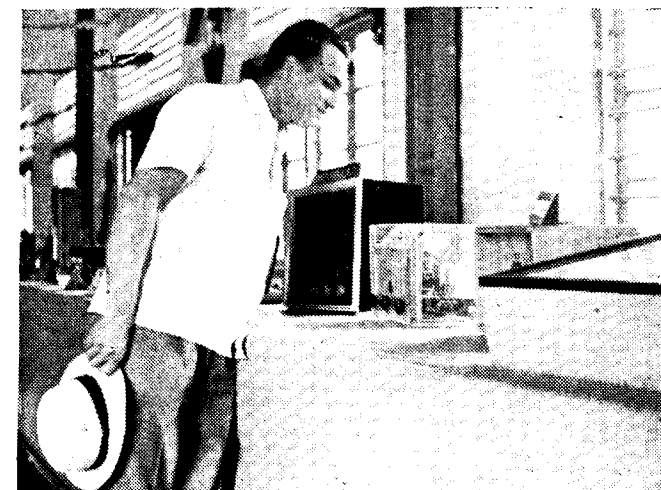
BOMBAY-7.



SMALL INDUSTRIES
who manufacture component parts
required in

AUTOMOBILE INDUSTRY
HOME APPLIANCES
BUSINESS MACHINES
ELECTRICAL EQUIPMENTS
TOYS AND MODELS ETC.,

may contact THE SUPERINTENDENT



Mr. A. J.
...



...



The Minister, Mr. R. Venkataraman, Minister for Industries, Labour & Co-operation, Government of Madras, addressing the Industrial Estate Manufacturers' Association on 15th July 1960.



The Minister, Mr. R. Venkataraman, Minister for Industries, Labour & Co-operation, Government of Madras, with the 16 mm. Cine Sound Projector manufactured by M/s. Amco.

The Industrial Estate Manufacturers' Association, Guindy

First Anniversary Celebrations

The Industrial Estate Manufacturers' Association, Guindy, Madras celebrated its first Annual Day on 15th July, 1960 under the Presidentship of Sri R. Venkataraman, Minister for Industries, Labour & Co-operation, Government of Madras.

A large number of invitees were present including high officials of the Central and State Governments connected with Small Scale Industries.

After tea and refreshments, Sri K. Nageswaran, President of the Association, welcoming the Minister and the guests, referred in grateful terms to the valuable assistance and encouragement given by Government to the occupants of the Industrial Estate which has enabled them to show a good record of production and progress and contribute to the reputation of the Guindy Industrial Estate. He also added that they had to face some difficulties and problems which needed greater attention and response from Government. He said that the Industrial Estate of the size of Guindy should have a production Engineer and a Designs Engineer to help the Industrialists by studying their problems and giving suitable advice, as well as a common machine drawing room. While appreciating Government's move to provide tenements

for workers in the Estate, Sri Nageswaran suggested that amenities like schools playgrounds and hospitals etc. should also be provided for the workers' colony.

Sri R. Venkataraman, Minister, congratulated the Association and the Industrialists of the Estate on the notable progress made in the organisation of Small Industries. Their growing problems were only an index of their progress. He was glad to find that the Industries Department with the co-operation of Industrialists had helped to change the climate of outlook among young men who have now switched over from the old practice of hankering after jobs, to become entrepreneurs and start industries themselves.

In the course of his speech, Sri Venkataraman made an announcement that the Government of Madras had decided to give 15% price preference on their purchase from Small Scale and Cottage Industries, as compared with the price that may be quoted by large scale industries. The announcement was greeted with cheers by the audience.

At the conclusion of his speech, the Minister switched on the 16 mm. Cine Sound Projector manufactured by M/s. Amco

INTERESTING TO NOTE

Electric Autos

The automobiles of tomorrow may be propelled by electricity instead of gasoline. Operating quietly, without the noise or fumes of an exhaust or the need for changing gears, these cars will have a totally new kind of propulsion system.

Dr. Herman A. Liebhafsky of the General Electric Company's Research Laboratory says the electric car could be here in five years. Electric cars, operated from storage batteries, were in use some years ago, but have now passed from the picture because the batteries had to be recharged so frequently.

The Chrysler Corporation has started work on an electric car which it calls the Cella I. The company says it is an "idea car" for the exploration of advanced engineering concepts.

The heart of the new car's propulsion system will be a fuel cell which feeds its electricity to individual motors on each of the wheels. The fuel cell is a revolutionary device that generates electricity directly from chemicals at an efficiency greater than that of the best of today's electric power plants.

As long as the fuel cell is supplied with its basic chemicals, it silently and efficiently generates electricity. Unlike the batteries now installed in automobiles, the fuel cell does not require electrical recharging.

Fuel cells are not, it should be understood, entirely untried devices. A number of large companies have been using and testing them for some time. They are already being used to power an experimental tractor made by the Allis-Chalmers Company, and also to power fork-lift trucks, electric saws and welding equipment. At least 20 American companies are reported to be developing fuel cells for use in everything from out-board motors for motor boats to space-travelling earth satellites.

Exactly what is a fuel cell?

This is a question that many have been asking since news stories began to mention the name of the new device during the past few years.

A fuel cell is a battery-like device, but it operates on a different principle. It has two electrodes that are immersed in a so-called electrolyte, a liquid that conducts electric current. When hydrogen is fed into one electrode and oxygen into the other, a chemical reaction takes place. Water is formed as the hydrogen and oxygen combine, but in the process negatively charged, electricity accumulates on the hydrogen electrode.

Engineering Corporation, one of the units in the Estate.

The function came to a close with a vote of thanks proposed by Sri S. Chakrapani, Secretary of the Association.

At the First Annual General Body Meeting of the Industrial Estate Manufacturers' Association, Guindy, held on the 16th July 1960, the following were re-elected together with the Committee of five members as below:—

President: Sri K. Nageswaran,
(Resa Co.)

Vice-President: „ J.K. Mullick, (Coogans
Die-Casting)

Hony. Secretary: „ S. Chakrapani, (Metal
Container Corpn.)

Hony. Treasurer: Sri P. H. Nagrecha, (Elite
Optical Indus.)

Members of the
Executive Com-

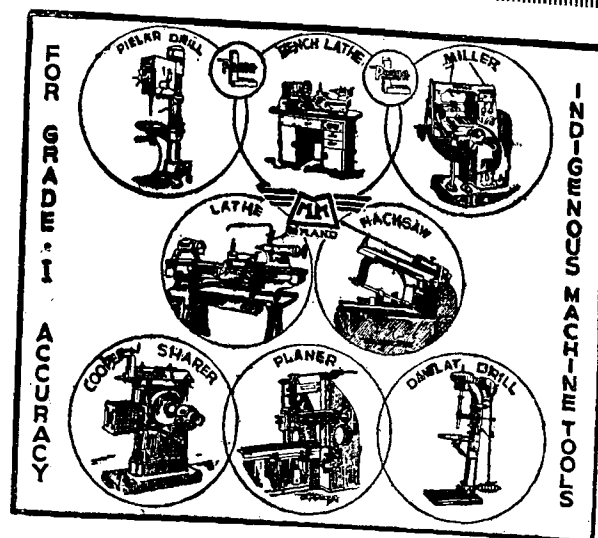
mittee: 1. Sri U. N. Baliga, (Baliga
& Co.)

2. „ R. Shreenivas,
(Hi-velm Indus.)

3. „ M. L. Aggarwal,
(Tepco)

4. „ B. K. Sankar, (Rly.
& Marine Eng.
Works)

5. „ T. Krishnamurti,
Physics Instruments
Co.)



BATLIBOIS

INDIA'S
PREMIER MACHINERY HOUSE

For Your Requirement
in Machinery and Tools
Contact Batlibois.

— Please get in touch with —

BATLIBOI & Co.,

(Prop.: BHOGILAL LEHERCHAND
[Private] LTD.)

3/153, Broadway, Madras.

H. O., BOMBAY.

Branches: { COIMBATORE, VIJAYAWADA, SECUNDERABAD,
KANPUR, DELHI, CALCUTTA, AHMEDABAD.
Associates at BANGALORE.

If the fuel cell is connected to an electric motor, a current of electricity will flow from the hydrogen electrode through the motor and back to the oxygen electrode. If enough cells are connected in series, so that each adds its strength to the others, enough electricity can be generated to make the motor run. The cells will continue to generate power as long as oxygen and hydrogen gas are supplied.

Other chemicals could be used instead of hydrogen, and considerable research work is now being conducted in this field in the

United States. The Esso Research & Engineering Company, for example, is understood to be studying the use of oil for a fuel-cell power plant to provide individual homes with electricity.

For automobiles the fuel cell could offer the following advantages: no exhaust of disagreeable and possibly harmful fumes; silent operations; economical operation because of its 65 to 80 percent efficiency in generating electricity, particularly at traffic speeds; and no fuel used when a car is stopped by a traffic sign or by a traffic jam.

Phone: 55053

Grams: "EMGISHA"

M. G. SHAHANI & CO.
(Bom.) PRIVATE LIMITED

62, Malayaperumal Street, P.B. No. 1956, Madras-1.

Show Room: 289, Stringer Street.

Manufacturers of:

SKYLITE ENVELOPES, GUM, FILES AND OTHER STATIONERY
Stockists of High Class Stationery

★

We stock and make varieties of Envelopes such as:
**MANILLA, KRAFT, CLOTH-LINED, WINDOW, IN COMMERCIAL
AND OFFICIAL USE GREETINGS AND INVITATION CARDS**

**VARIOUS QUALITIES AVAILABLE FILES
MADE TO YOUR REQUIREMENTS**

**Variety of MOONLIGHT Pencils to individual
taste with all Grades always available**

★

Please send your Trade Enquiries to the above address

C. P. G. NAIR, Manager.



HOW PENCILS CAME TO BE MADE

By D. MacRow, A London Journalist.

The next time you pick up a pencil you may care to think about how the very first pencils came to be made. You will have to go back more than 400 years, to the mountains of Cumberland in the North-West of England.

One night, in about the year 1550, there was a violent storm. The next morning, where local shepherds went to look after their sheep on the hillsides, they found that several trees had been blown down. The torn-out roots had broken the soil, exposing a strange, black material.

At first, the shepherds thought it was coal. They tried to make a fire with it, but the black stuff would not burn. Then they found that very black marks had been left on their hands, and later they used the new material to mark the wool of their sheep, to show who was the owner.

IN ARMED STAGE-COACH

For some years, the shepherds dug out as much of the black material as they needed, but no-one else was very interested. Then the Government got to hear about it and, though they had no idea what the black stuff was, they thought it might be valuable. Some was sent to London—and it was carried in an armed stage coach.

The material came to be known as graphite, and the Government took over the deposits in Cumberland because graphite was found to be useful in the casting of cannon balls.

During the reign of Queen Elizabeth I, the fame of Cumberland graphite spread to many countries. It was used by artists, who found

it excellent for black and white drawings. Those early "pencils" were just pieces of graphite wrapped in sheepskin.

COTTAGE INDUSTRY

Soon, it was found that long, thin strips of graphite could be fitted between two grooved pieces of wood, which could then be bound together to keep the "lead" firm. And so the first pencils, as we know them, were made. The first of these hand-made pencils came from Keswick, a town near where the first graphite was discovered. It was then a cottage industry—families made pencils during the evenings in their own homes.

It is some 60 years since the last graphite was mined in Cumberland. Now, it is imported from Ceylon, Mexico, Korea and some other countries. But pencils are still made in Cumberland not only with black "lead", but with 72 other colours as well.

Coloured pencils have, of course, been made for many years in many countries. But the first came from Keswick, and the Cumberland people still have something useful to give to the pencil industry.

Some coloured pencils are dangerous, because their "leads" are poisonous. The pencils from Keswick are all made of substances that you can suck, if you must, without coming to any harm.

NEW INVESTMENT CENTRE FOR INDIA

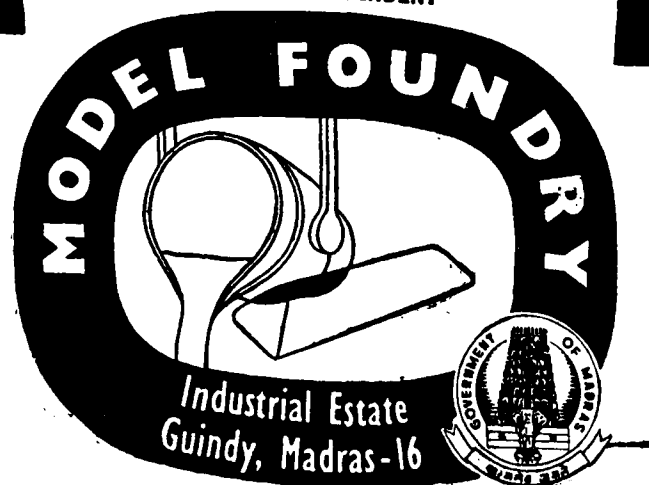
Foundry Services

to meet
the needs of Industries
in and around Madras

Equipped with
2½ Tons Capacity Cupola
Moulding Machines
Core Blowers
Pattern Shop
with
necessary
machinery
and laboratory
facilities

undertakes all types of
ferrous castings

For details please contact
THE SUPERINTENDENT



Indian Investment Centre, an institution to help promote the flow of foreign private capital into India in a manner most helpful to the Indian economy, was launched during the third week of June this year.

As a result of an agreement signed by the Government of India and the United States, assistance to the extent of Rs. 59,10,000 will be made available to the Centre through the U. S. Technical Co-operation Mission. Of the total, Rs. 34 lakhs come from TCM to cover foreign exchange costs while local costs of Rs. 25 lakhs will be covered by rupees derived from sale proceeds of U.S. agricultural commodities supplied to India.

The Centre will answer a pressing demand to help create an interest in India by foreign investors and provide a medium through which Indian and foreign businessmen can co-operate in joint efforts.

With its headquarters in New Delhi, the Centre will be of particular advantage to small and medium business which are unable to devote extensive time and funds to the investigation of prospects for foreign co-operation.

The Centre will provide the technical facilities required for capital sources, preparing prospectuses and assisting negotiations.

The Investment Centre will provide :—

- (1) Data on production, trade, markets, labour, resources. etc.
- (2) Information on the economic, financial and industrial policies of the Government ;
- (3) Source of material of Indian industrial and banking institutions, laws and regulations bearing on foreign investment ;
- (4) Surveys of foreign investment possibilities ;
- (5) Advice to Indian businessmen on attracting foreign capital ; and
- (6) Assistance to potential foreign investors interested in investment in India ; and perform other allied functions.

The Investment Centre, a non-profit registered society, will function under a board of directors with a chairman. The TCM aid will cover salaries for the services of five foreign technicians and short-term experts, costs for the purchase outside India of various equipment and the establishment of a reference library.

Participating in the signing of the agreement were Mr. N. C. Sen Gupta, Joint Secretary, Union Ministry of Finance, and Mr. C. Tyler Wood, Minister for Economic Affairs of the American Embassy and Director of TCM.

SMALL INDUSTRIES AIDED

Small industry in India will be aided substantially under provisions of a 10 million dollar loan by the U.S. Development Loan Fund.

In announcing the loan's approval, the Fund said that the money would be used to procure equipment on a rental-purchase plan for small business.

The borrowing agency is the Indian National Small Industries Corporation (NSIC). Details of the agreement remain to be negotiated.

During the last two years over 2,300 machines valued at about Rs. 2.24 crores

have been supplied by NSIC to such industries. The number of applications has mounted year by year, but foreign-exchange limitations have prevented corresponding increase in the programme.

Under the loan, DLF funds are to be used to meet foreign exchange costs of capital equipment and related materials and services which will be made available through rental-purchase agreements to private borrowers for projects which will contribute to the basic economic development of India.

TRAINING CUM SERVICE CENTRE IN BLACKSMITHY FOR SINGANUR

The Government have sanctioned a scheme for the establishment of a Training-cum-Service Centre in Blacksmithy at Singanur in Merkanam Block, South Arcot District. The object of the scheme is to train artisans in and near the locality in the

use of improved tools and equipments for a period of one year and then convert it into an Industrial Co-operative. The Government have also sanctioned an expenditure of Rs. 9,110 non-recurring and Rs. 6,420 recurring towards this scheme.

BLACKSMITHY AND CARPENTRY TRAINING

CENTRE AT TIRUVIZHIMAZHALAI

The Government have sanctioned the establishment of a Training-cum-Service Centre in Blacksmithy and Carpentry at Tiruvizhimazhalai in the Kodavasal Block, Thanjavur District. The object of the scheme is to provide training in the operation of improved types of modern machinery and tools to eight artisans in each industry (Blacksmithy and Carpentry) and to render

servicing facilities to artisans and others at times of need. The trainees will be paid stipends at Rs. 25/- per mensem each. The unit will be converted into an Industrial Co-operative Society after training is completed. The Government have sanctioned an expenditure not exceeding Rs. 23,910/- non-recurring and Rs. 6,780/- recurring for both the sections.

CARPENTRY TRAINING CENTRE AT ARNI

The Government have sanctioned the establishment of a Training-cum-Service Centre in Carpentry at Arni, North Arcot District, with the object of imparting training to artisans in the use of improved types of modern machineries for a period of one year. The trainees who will be 10 in

number will be paid a monthly stipend of Rs. 25 each. It is proposed to convert the unit into an Industrial Co-operative at the end of the training period.

A sum of Rs. 6,500 and another of Rs. 8,960 has been allotted as non-recurring and recurring expenditure, respectively.

CARPENTRY TRAINING CENTRE AT VELANGANNI

The Government have sanctioned the establishment of a Training-cum-Service Centre in Carpentry at Velanganni in the Thanjavur District. The scheme is intended for imparting training to 10 Harijan artisans who will be paid a monthly stipend of

Rs. 25 each for being trained in the use of improved types of machineries for a period of one year. The centre will also render service to the villagers and artisans in times of need at nominal charges.

BUILDING MATERIAL UNITS TO BE ESTABLISHED

The Government have sanctioned Rs. 84,780 for the establishment of 3 Building Material Units in block areas selected for the Village Housing Project Schemes in this

State. This amount is made available from an additional grant of Rs. 32,280 and a loan of Rs. 52,500 sanctioned by the Khadi and Village Industries Commission.

JULY-SEPTEMBER 1960

55

Phone : 250 (5 lines) Grams : "HARVEY"

TEXTILE MILLS

MADURA MILLS CO. LTD.,

MADURAI

Mills at MADURAI, AMBASAMUDRAM AND TUTICORIN

COTTON YARNS

5,00,000 Spindles Counts up to 100

Of all description for HANDLOOM, POWERLOOM AND HOSIERY FACTORIES

Managers:

A. & F. HARVEY, LTD.,

MADURAI

Phone : 420 (4 lines) Grams : "HARVEY"

FIVE NEW BRONZES ON SHOW AT GOVERNMENT MUSEUM

Five recently acquired bronzes, one of Veenadhara Dakshinamurthi and the other four representing the Saivite Saints, Appar, Sundarar, Tirugnanasambandar and Manickavachakar are on display as special exhibits in the entrance hall of the Government Museum, Madras. The bronze image of Veenadhara, received as a treasure trove find from Negapattinam taluk of Tanjore District is particularly graceful in its dvibhanga posture, with its upper pair of arms holding mrga and parasu and the lower pair in the pose of playing the Veena. This sublime figure stands in an elegant pose, suggestive of effortless command and reminds one of the late Chola art of 13th century A.D. Veenadhara figures are more commonly met with in bronzes than in stone sculptures. The setting up of bronze images in the temples for the four Saivite Savants was in vogue as early as 10th Century A. D. In these South Indian Bronze statues, Bhakti is given an expression which had to be withheld from the cult image of deities. They effectively portray the devotion of the devotee for his deity. The image of Jnanasambanda is remarkable for its suggestive gesture. The figure of Sundamurthi is in the pose of riding a horse which is missing. This is a unique specimen since Sundaramurthy is usually accompanied by his two consorts in standing posture. The Spud usually shown in the arms of Appar is not to be seen in the present exhibit, but the treatment of the loin cloth is interesting.

TRAINING IN THE MANUFACTURE OF BAMBOO ARTICLES

The Director of Industries and Commerce, has submitted a scheme for starting a Training Centre for the manufacture of bamboo articles at Kurumbanur in Kolathur Block, Salem District. It is reported that there are 30 families of "Koravas" in the Village, who are engaged in this industry and that they are still pursuing old methods of basket manufacturing. The object of the scheme is to provide training to 15

persons for a Period of one year on a stipend of Rs. 25/-per mensem each in the manufacture of improved and latest designs of fruit baskets, shopping baskets, winnows etc.,

The Government have approved the scheme and have sanctioned an expenditure not exceeding Rs. 1,100/-non-recurring and Rs. 6,300/-recurring.

INDUSTRIAL TRAINING INSTITUTES

SEATS INCREASED BY 500

The Government have ordered the increase of seats in the Industrial Training Institutes in the State by 500 during 1960-61.

Under this scheme, 300 additional seats were to be provided at the Industrial Training Institutes at Guindy, Madurai and Coimbatore utilising the facilities available at the Work and Orientation Centres for the educated unemployed and the remaining 200 seats at the Industrial Training Institutes at Cuddalore, Nagapattinam Pettai (Tirunelveli) and Virudhunagar in popular trades where double shift is not conducted at present.

The Government are at present running 10 (ten) Industrial Training Institutes and Centres with 2,668 seats of which 1,212 have been sanctioned during the Second Five Year Plan. Besides the 10 institutes, 2 Work and Orientation Centres for the educated unemployed are functioning at Madurai and Coimbatore with 100 seats each besides a similar centre providing facilities for 100 at Madras.

The increase of 500 seats has been effected on the recommendation of the State Council for Training in Vocational Trades.

TOY INDUSTRY IN INDIA

1. Indian toys range from numerous types of dolls, mythological characters, small animals and birds to various categories of fruits. They also portray in a vivid manner the customs, practices, dresses and ornaments of people of different regions.

2. Among States known for their characteristic toys are Uttar Pradesh, West Bengal, Orissa, Bombay, Madras and Mysore.

3. Among centres which have earned a name in the production of special types of toys are Lucknow, Mathura, Agra, Varanasi, Murshidabad, Krishnagar, Calcutta, Berhampur, Kondapalli, Tiruchirapalli, Travancore, Nasik, Gokak and Savantwadi.

4. The Pattern of toys generally depends on the raw materials available in the area. While in the northern zone, comprising

'bleeding madras'

**READY MADE
GARMENTS**

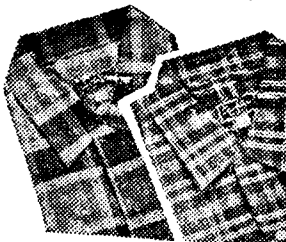
REALLY GUARANTEED TO FADE & BLEED



**make
your
purchase
early
from**

CO-OPTEX SAREE MUSEUM
191, Mount Road, Madras-2.

SISTA'S



Handicrafts Industry IN MADRAS STATE

Uttar Pradesh and West Bengal, toys are moulded from soft clay, they are made of papier-mache and cloth in Rajasthan and of wood and soft stone in Madhya Pradesh. In the eastern belt extending to the extreme south, light yellow or red wood is usually used for the purpose.

5. Lately rubber and plastics have also come to be used for the manufacture of toys.

6. Terracotta figures and toys, made all over India, have since time immemorial been a subsidiary occupation of the Indian potter.

7. The coastal districts of South India are famous for toy birds and boats made of shell, while Hyderabad has achieved distinction in production of small tea sets and kitchen utensils made out of areca nuts.

8. Krishnagar in West Bengal, a great toy producing centre, manufactures a large variety of toys including human figures playing musical instruments, dolls, animals etc.

9. The toys of Kondapalli near Vijaya-wada are famed for workmanship and artistry. They are made of wood and cover a variety of subjects such as artisans, toddy-tappers and elephants with howdahs.

10. Besides the small-scale industries in villages and small towns which produce bulk of toys, there are also a number of institutions and individuals who make toys for the city bazars.

11. The use of toys as an easy method for imparting education to children has proved effective and a Pilot Production Centre for Educational Wooden Toys has been established in Bombay by the All India Handicrafts Board. This centre has a research section. It evolves new models and designs which are distributed for production to different toy producing centres in India.

12. The All India Handicrafts Board proposes to turn this centre into a 'National Craft Institute for Toys' in the near future.

THE BRITISH PHARMACEUTICAL CODE

The British Pharmaceutical Code 1959 is operative from 1st September 1960, in Madras State for the purposes of the Drugs Act, 1940

and the Drug Rules, 1945. The standards of identity, purity, and strength specified therein have been rigidly enforced from that date.

ISSUE OF GIFT COUPONS IN THE COTTAGE INDUSTRIES SALES EMPORIUM REVIVED

The Government have ordered that the scheme of issuing gift coupons in the Cottage Industries Sales Emporium, Madras, to purchasers of goods to the value of Rs. 20 and above at a time, the value of the gift coupons being 2½% of the cost of the goods purchased, be introduced again and tried

for a period of 6 months. The Director of Industries and Commerce will submit a report on the working of the system sufficiently in advance of the expiry of the period so that the question of further continuance of the scheme may be examined.

The Board of Directors of the Madras State Handicrafts Co-operative Marketing Society Limited which was registered recently by the Government of Madras with the object of reviving and expanding the ancient Handicrafts Industry in the South, made a two days study tour of the Tanjore District led by Srimathi Sarojini Varadappan, President of the Society, commencing from 31st August. The object of the tour was to make a rapid survey of the present position of the Handicrafts Industry in Tanjore District which is the reputed centre for this industry in the whole of the Madras State and to suggest ways and means for stepping up production and marketing of handicraft products.

The Board of Directors visited important Handicrafts Co-operatives and Departmental Units, such as Musical Instruments, Art Plate, Paper Making Vilangudi Mats, Art Gallery and Saraswathi Mahal, Picture Painting, Garland Works, Swamimalai Icon and the Kalamkari Printing at Sikki-naickenpet and the Nachiarkoil Bell Metal Works etc. Sri D. Mariasusai, Deputy Director of Industries and Commerce (Small Scale Industrial Co-operatives) Madras, Sri K. N. Srinivasan, Assistant Director of Industries and Commerce, Tanjore and Sri T. Shanmugham, Village Industries Officer, Tanjore, accompanied the Board of Directors in the course of the tour.

A Meeting of the Board of Directors and representatives of various Handicrafts Co-operative Societies in Madras State was

held on 1st September '60 in the premises of the Kumbakonam Co-operative Metal Workers Society with Srimathi Sarojini Varadappan, President of the Society in the chair—Sri D. Mariasusai, Deputy Director of Industries and Commerce, stressed upon the urgent need for pooling the resources of the ancient arts and crafts in the State which were fast dying out and to consolidate and expand them so as to develop the world famous handicrafts of this State.

Resolutions were adopted to undertake a comprehensive survey of the Handicrafts industry in the State and chalk out necessary schemes for organising Sales Depots at Bombay and Delhi and also to explore the possibilities of developing export markets.

INDIAN HANDICRAFTS ABROAD

Indian handicrafts are now finding their way to more and more homes abroad. The value of exports of handicrafts went up by 15 per cent in 1959 as compared with the year before. Nearly 80 countries took 50 different varieties of handicraft products of a total value of Rs. 7.64 crores last year.

Presenting an admirable combination of beauty and utility, Indian handicrafts have been justly famous for the joy they bring to people everywhere, to adults and children alike. About a million craftsmen and artisans, working in the seclusion of their cottages, recreate in metal, wood, textiles or straw, the variegated forms of nature or stories and legends from folklore, mythology and history.

In the post-war period, handicrafts faced a double challenge, increasing competition from the infinitely cheaper machine-made goods and the drying up of traditional patronage as a result of socio-economic changes. Not only because a tradition of craftsmanship and a cultural heritage were thus threatened with extinction but also because the livelihood of lakhs of skilled workmen was affected, efforts were made to revive the handicrafts and put new life into what is one of the biggest cottage industries of India.

Revival and Improvement

Handicrafts have received great fillip in the last ten years during which organised efforts have been made to improve marketing facilities, provide training to young

craftsmen and give new ideas and designs to the older and experienced artisans, improve quality and organise the craftsmen into co-operatives.

The All-India Handicrafts Board set up by the Government of India in 1952 has adopted these and other measures in co-operation with State Governments and other agencies to stimulate and develop the handicrafts industry. This has brought new hope to our craftsmen and given them much-desired stability and reasonable return for their skill. Patronage has become more broad-based.

It was realised early that, given proper efforts and organisation, there was wide scope for Indian handicrafts in the foreign markets. What was particularly needed was that the foreign buyer should be assured of steady supply of the required articles as well as of supply according to specifications—difficult things to fulfil in an industry which is organised on a cottage basis and where no two articles would be alike, the individuality of the product being its characteristic feature. As the necessary organisational effort has been made, exports have been increasing.

In the last few years Indian handicrafts have been exhibited in many countries of Europe, Asia and Africa as well as the Americas, both in large international shows as well as special exhibitions of Indian products and handicrafts. Handicrafts are also on show round the year in permanent showrooms in large cities of the world. Information about requirements of foreign buyers has been supplied to the craftsmen at home and exporters have been encouraged to take advantage of the various facilities created for export promotion.

A Corporation

An important step taken was the creation of the Indian Handicrafts Development Corporation, a Government-owned body, to stimulate exports of handicrafts. The Corporation endeavours to create conditions which can facilitate the export of handicrafts rather than undertake direct marketing.

Apart from making arrangements for display and publicity abroad, the Corporation provides credit to the exporters of handicrafts to the extent of 80 per cent of the value of firm export orders secured by them. This has removed one of the principal bottlenecks in the speedy execution of export orders. The facility is already being widely used by handicrafts exporters.

Another step taken by the Corporation is in the direction of quality inspection of

goods before shipment to ensure that the importer gets what he has indented. A scheme to import essential raw materials like metals and chemicals required in the production of handicrafts so that craftsmen get them at fair prices is also being prepared by the Corporation.

Buyers Abroad

Handicrafts are being exported to 23 countries in Asia, 16 countries in Africa, 17 countries in the Americas, 19 European countries and to a number of countries in the Oceanic region. The United Kingdom is the largest buyer of Indian handicrafts with a total import of Rs. 2.83 crores; the United States is the second largest. In 1959, handicrafts worth Rs. 2.14 crores were exported to the U.S.A. Other large buyers are Canada, the Federal German Republic, Australia, Singapore, Switzerland, Sweden, the Soviet Union, Belgium, Hongkong, Aden, Saudi Arabia and Kuwait.

Carpets and druggets are the most preferred articles. The value of their exports is nearly Rs. 5 crores. Brassware and bronzeware, ivory articles, wood carvings, artistic embroidery, bangles and beads, mats, numdahs, bamboo and wickerwork articles, horn articles, shawls and scarves are among the other handicrafts in demand abroad.

For Your Requirements of:

STANDARD . . .

- * Condensers
- * Volumetric Wares
- * Ground Glass Wares
- * Graduated Wares
- * High Vacuum Apparatus
- * And all types of Scientific and Laboratory Glassware

and Special Glass Apparatus of your design
to serve your specific purpose if standard
items are not suitable

★



Please contact:

GOVERNMENT SCIENTIFIC
GLASS TRAINING CENTRE,
GUINDY — MADRAS-16.

A Division of the
Department of Industries
and Commerce, Madras.

COLOURING LEATHER BY MACHINE

A new machine which applies the first coat of colour to leather after tanning has been produced by a leading British group of tanning machinery manufacturers, Barrow Hepburn & Gale Ltd., London.

The machine mechanises a process in the manufacture of leather which formerly could only be carried out by hand. It is called the seasoning coat padding attachment and stimulates the normal manual method of padding by two endless plush belts carried on arms set at predetermined angles to the leather. The leather travels on a conveyor belt towards the padders which are angled so that the revolving plush belts work the colour from the centre of the skin towards the edges. It is a remarkably successful interpretation of the manual padding action. The pressure of the pads is variable and the machine is provided with a remote speed control through an electronic device.

NEW WHITE PAINT

A paint which not only looks outstandingly white when applied, but does not turn yellow with time, has been produced by Jenson & Nicholson Ltd. of London. It has been named Della Robbia, after the Florentine Renaissance artist and sculptor, whose white glaze defies emulation to this day. The paint dries in six hours to a glistening, hard surface and is impervious to the effects of weather, steam and condensation. It can be used on the walls and ceilings of kitchens and bathrooms, as well as for outside work.

LONG-LIFE WASHER FOR TAPS

The intermittent problem of having to replace leaking tap washers had been solved to a large degree by a U. K. firm, F. H. Evans & Co., London. They have produced a device known as the "Full Stop" unit which is used to replace the ordinary washer. Fitting it is as simple as re-washing.

The secret of the unit is that it uses a specially resistant nylon washer-plate in conjunction with a special seating which is formed from a nylon derivative, which covers the metal seating of the tap. Normally, worn and corroded seatings cause the wear on a washer, but by using two well matched smooth materials the "Full stop" system provides a cushioned "shut-off" for all kinds of taps. The makers guarantee the invention even where the tap feeds constant boiling water or superheated steam—as in hotels, hospitals and laboratories—and describe it as virtually indestructible.

WELDING PLASTIC SHEETING

A simple device that enables a housewife to seam-weld plastic sheeting at home has been introduced by a U. K. Firm, Enbee Products (London) Ltd., England. The welding is carried out by the heat from an ordinary domestic iron. The system can be used in the making of dust covers or in the garden for packing such things as seeds and flowers. Effective repairs can be made to raincoats and other articles of

plastic sheeting. In tropical climates protective covers can be quickly made up with the system to provide against humidity, dust and insects, and it also has a use in expedition work such as sealing specimens away from moisture. A joint can be welded in as little as two seconds.

NEW METHOD OF STEEL FRAME ERECTION

Factory extensions and farm buildings are being provided in a hurry by a Bradford, Yorkshire firm which has developed a new method of steel frame erection. In just one day the firm claims that eight men can erect the frame of a building 100 ft. by 40 ft. without the help of cranes and other expensive equipment. By comparison such a building erected by more conventional methods would take the same gang about a week.

The new method employs rectangular hollow section steel girders which are hinged together at points corresponding to the apex of the roof and the eaves, to form the wall struts and roof span. For transport (the steelwork for an entire building can be loaded

on to one lorry) each section is folded up rather like a carpenter's three-foot rule; on arrival at the site it is opened out and locking pins inserted at the hinges. With nothing more complicated than a rope and pulley-block, each section can then be manoeuvred into position and secured. Almost any material can be used for cladding the skeleton, but factories and farm buildings favour brickwork up to window height followed by asbestos sheet.

Weighing only half as much as comparable normal steel structures, but having the same strength and life, these frames are finding an increasing market all over Britain, and have excited enquiries from overseas countries including India and Australia. The savings in haulage costs and erection time put the price of these folding frames at about 30 per cent cheaper than any other. At the moment spans from 9 ft. to 60 ft. are available, but drawings are being prepared to extend the present maximum span. In addition to industrial buildings the firm has also designed three different sizes and styles of bungalow to suit all classes from the working man to the executive.

THE MADRAS CIRCLE PIPE DEALERS' ASSOCIATION LTD., 6, ARMENIAN STREET, MADRAS-1.

P. B. No. 1748

Sole agents for :
S. & L. PIPES IN SOUTH INDIA

Branches at :
VIJAYAWADA - SECUNDERABAD - BANGALORE - COCHIN - MANGALORE
COIMBATORE

IND-COM JOURNAL

Patents For New Inventions

During 1959, Indian inventors applied for patents for 671 inventions in widely different fields of industry and technology.

CHEMICAL INDUSTRIES

In the field of chemical industries, our inventors showed increased interest. Their inventions related to the preparation of substituted - benzene - sulphonyl-alkyl-ureas, substituted-benzene - sulphonamido - pyridazines, copper complex biguanide derivatives, ethylene-dichloride, furocoumarines, preparation of phenols from coaltar, citric acid from sugarcane molasses, maleic anhydride, substituted-hydroxy-aromatic acid-amines, guanidino-ethyl-phosphates and preparation of ruveside.

On the inorganic side, our inventors were particularly interested in the preparation of nickel sulphate from hydrogenation catalyst waste, ammonium sulphate from iron and steel industry waste, metallic halides, alumina, carbon disulphide, alkali metal carbonates, cupric hydroxide, soluble silica from alkaline solutions, sulphuric acid and soda from ammonium sulphate and manufacture of salt from sea water by solar evaporation.

METALLURGY

In metallurgy, Indian inventions related to the introduction of magnesium into

molten cast-iron and gold extraction. Some inventions related to semi-die castings of utensils and use of aluminium foundry refuge. Inventions also related to the manufacture of ferro-manganese, production of iron from low grade ferruginous clay and manufacture of basic and acid steel. Indian inventors were also interested in metallurgical melting furnaces and cupola furnaces.

FOOD AND AGRICULTURE

In the field of food and agriculture, our inventors were interested in pressure and steam cookers, tiffin carriers, preparation of flavouring agents from waste paper kerosene oil stores, house-hold strainers, cooking pots, domestic waste heaters, preparation of vegetable milk powder and sugar cane mills. They also showed interest in rice shellers, plough shares, tractor attachments and cultivating implements and in the preparation of fertilisers.

In health and sanitation, inventions mainly related to anti-cancer preparations, separations of physiologically active principle of nim oil, sanitary tampons, birth control appliances, pesticidal composition:

JULY-SEPTEMBER 1960

containing chlorinated phenols and fungicidal compositions from coal-tar. A few inventions were for flushing cisterns for latrines, cocks for water taps, waste-not-taps, tubewell strainers, hygienic domestic type of water filter units and treatment of sewage to produce methane gas for domestic and industrial purposes.

ENGINEERING

In the field of civil engineering, inventions were small in number. These related mainly to pre-stressed and reinforced concrete structure, construction of beams, doors, windows, floors, refractory bricks and earth boring, excavating and dredging machines.

On the mechanical side, the Indian inventors were particularly interested in typewriters in Indian scripts, animal-driven pumping machines, reciprocating mechanisms, grinding mills, hydrostatic lubricators, rotary fans and pumps, air coolers, glass panels for vehicles and bicycle industry. In electrical engineering, our inventors took interest in transistorised radio receivers and fluorescent tubes.

TEXTILE TECHNOLOGY

In the field of textile technology a few inventions, which originated in our country, related to dyeing textiles, specially textiles prepared from synthetic filaments, with azo dyes, rendering textile materials water-repellant and prevention of shrinkage. Regarding looms, our inventors were interested in pickers, water-proofing of textiles, spinning machines run exclusively by solar energy, cotton spinning spindle, charkha, time-controlled intermittent traverse motions for spinning and doubling machines, carding machines, and ring spinning machines. Inventions also pertained to treating jute fibres with synthetic resin for rendering them root and moth proof, proofing of textiles, adhesive tapes, sewing machine and its various accessories.

Apart from these, there were also inventions in other branches of industry and technology. Among these may be mentioned inventions relating to cigarette making machines, tobacco manufacture, plastics, paints and coating compositions, magnetic sound recorders and reproducers, India rubber compositions, toilet preparations etc.

LEATHER TESTING

A device for testing the tensile strength and extension at break of low-strength leather specimens has been evolved in the Central Leather Research Institute, Madras. The device, which consists of a clamp and motor cycle chains, can be used in conjunction with standard tensile strength testing machines. This instrument can be used for testing any material including single fibres.

STEEL IMPORTS

The imports of steel had been progressively decreasing. As against import of 11 lakh tons in 1958 this year import is expected to be 6 lakh tons. Indigenous production of steel in 1960 is expected to be 25 lakh tons. This would be 8 lakh tons more than the production last year.

OUTPUT OF CYCLES

The target fixed for the output of cycles for the year 1960-61 at 1.25 million cycles, is being more than fulfilled.

RAZOR BLADES

Two new schemes for the manufacture of razor blades with production capacity of 132 million numbers per annum have been approved. At present 5 units are manufacturing 629 million numbers razor blades annually.

EXPORT OF CASHEW-NUTS

The Government earned Rs. 1,605 lakhs of foreign exchange during 1959-60 by the export of cashew-nuts. As against the target of 1.90 lakhs additional acres during the Second five Year Plan, 1.72 lakhs acres have so far been planted.

NEW INDIAN STANDARDS

Tee Squares

The object of IS: 1360-1959 specification for Engineers' Pattern Tee Squares is primarily to assist the small scale sector of the industry in regulating the quality of its production.

The standard covers the requirements for four sizes of engineers' pattern Tee squares, designated as T₀, T₁, T₂, and T₃, for use with the corresponding four sizes of engineers' pattern drawing boards covered in IS: 1444-1959 Specification for Engineers' Pattern Drawing Board. Students' pattern Tee squares, as distinct from engineers' pattern Tee squares, are proposed to be covered in a separate standard.

Mild Steel Butt Hinges

A large quantity of cold rolled, mild steel butt hinges is being manufactured in the country and they are also being imported. At the same time new plants are being set up for the manufacture of these hinges. The purpose of IS: 1341-1959 Specification for Cold Rolled Mild Steel Butt Hinges, Which is an adjunct to IS: 205-1950 Specification for Butt Hinges, is to serve as a guide in the manufacture and purchase of such hinges. While IS: 205-1950 covers utility type butt hinges made from mild steel sheet, IS: 1341-1959 lays down requirements regarding material, dimensions,

manufacture and finish of butt hinges made from cold rolled mild steel strip.

Testing of Tin Coating on Tin-Plate

Testing of tin coating on tin-plate is of importance since resistance to corrosion of tin-plate depends, among other factors, on the weight of tin applied per unit area of surface, and on the porosity of the coating. The Indian Standards Methods of Testing Tin Coating on Tin-Plate (IS:1327-1959) details test procedures for the determination of weight and porosity of tin coating of hot-dipped tin-plate and electrolytic tin-plate. It prescribes iodometric method for the determination of the weight of the coating and ferricyanide paper test for determining the porosity of the coating.

Lead Cable Alloy

Lead cable alloy is used for the manufacture of armoured and unarmoured cables for power, lighting, and other similar purposes. It is also recommended for dry-core, airspaced unarmoured telephone overhead cables, that is, suspended from catenary wire, and for other telephone cables operating under normal vibrations.

The Indian Standard Specification for Lead Cable Alloy (IS: 1339-1959) covers the requirements for lead cable alloy ingots suitable for remelting for the manufacture

of sheaths of electric cables to be used under most severe vibration stresses.

Reverse bend tests for steel sheet & strip

Regarding mechanical testing of metals, only tensile testing had so far been covered by the following two Indian Standards Specifications:

IS : 223-1950 Tensile Testing of Metals (Ferrous); and

IS : 497-1953 Tensile Testing of Metal (Non-Ferrous)

Recently, however, at the international level, the Technical Committee ISO/TC 17 Steel of ISO has formulated a number of ISO Recommendations relating to mechanical testing of steel. The necessity has, therefore, been felt for formulating parallel standards on the national level as well.

The Indian Standard Method for Reverse Bend Test for Steel Sheet and Strip less

than 3 mm Thick (IS : 1403-1959) is, for all practical purposes, a reproduction ISO/R 88-1959 Reverse Bend Testing of Steel Sheet and Strip less than 3 mm Thick, which represents the consensus of international opinion on the subject.

Porcelain Insulators for Telegraph and Telephone Lines.

The primary object of IS : 283-1959 Specification for Porcelain Insulators for Telegraph and Telephone Lines (Revised) is to meet the need of the Indian Posts & Telegraphs Department. The specification covers the requirements and tests for pin type porcelain insulators intended for use in supporting telegraph and telephone lines. The insulators covered by it should also be suitable for telegraph and telephone lines of railways and other users. The standards does not, however, cover the insulators required for the communication circuits

run solely for the operation and maintenance of electric transmission system and in close proximity to such lines. The stalks for use with these insulators have been covered in IS : 1441-1960 Insulator Stalks for Telegraph and Telephone Lines.

This standard is a revised version of the specification issued in 1951. The main modifications made in the revision are as follows :—

- (a) Single-shed pot-head insulators have been excluded from the scope of this standards pending further investigation, since the insulators now being manufactured in the country do not give consistent results in respect of the prescribed insulation resistance test.
- (b) Oil-cup insulators have also been excluded since the Indian Posts & Telegraphs Department has decided to discontinue their use.
- (c) Provision has been made for the inclusion of double-shed pot-head insulators which have been in use and are found to be satisfactory.

Electroplating

The following specifications are the latest additions to the series of Indian Standards relating to electroplating :

IS : 1337-1959 Hard Chromium Plating on Steel.

IS : 1359-1959 Electro-Tin Plating.

IS : 1378-1959 Oxidized-Copper Finished.

Other specifications published so far in the series are :

IS : 1067-1958 Commercial Silver Plating

IS : 1068-1958 Copper, Nickel and Chromium Electro-plated Coatings.

Chromium deposits of 0.025 mm (or 0.001 in) or more in thickness are usually covered by the term 'Hard Chromium Plating'. Such deposits are applied to dies, moulds, tools etc. primarily for wear resistance and for salvaging, worn out or over-machine parts. Requirements, such as conditions of basic metals, thickness of plating, adhesion etc. for hard chromium plating applied directly on steel (with or without grinding) for use for engineering and industrial purposes, have been covered in IS : 1337-1959,

Tests and requirements for four classes of electroplated tin coatings on iron, steel, copper and brass articles; used for preventing corrosion, for making during nitriding, to facilitate soft soldering of electrical contacts and terminals, etc., have been covered in IS : 1359-1959. The standards, however, do not cover in plating used in canning industry.

Oxidized-copper finishes are intended as decorative finishes and are commonly used in many railway fittings, such as fans, switches, etc. IS : 1378-1959 prescribes tests and requirements for four classes of oxidized-copper finishes with their associated minimum thickness on articles made of copper, copper base alloys, zinc base alloys and steel base alloys. It also includes details of the steps in the process of such a finish. It, however, does not cover copper plating for general purposes but only that intended as a part of the process of oxidized-copper finishing.

We have all categories of Pipes, Tubes and Fittings as well as Untested E. R. W. Tubes in various sizes

For details, please contact :

THE MADRAS CIRCLE PIPE DEALERS' ASSOCIATION, LTD.

No. 6, ARMENIAN STREET, MADRAS-1

Phone : 4055 & 21680

::

Telegram : "GALVANIZE"

**SOLE AGENTS FOR S. & L.
PIPES IN SOUTH INDIA**

Other Offices and Depots

- | | |
|--|--|
| 1. Shaukat Buildings, Silver Jubilee Park Road, Bangalore-2. | 4. No. 46, Bazaar Road, Mattancheri, Cochin. |
| 2. No. 1, Rashtrapathy Road, Secunderabad (Dn.). | 5. T. S. No. 10/764, Bunder Road, Mangalore. |
| 3. Rangayya Appa Rao Street, Vijayawada. | 6. No. 4/2, Race Course Road, Coimbatore-1. |

RECORD RISE In India's Export Earnings

CALLING

★
★
★
★

ALL FABRICATORS
in the City of
Madras and
Neighbourhood.

★

For
All kinds of
Machine-Shop
services at
cheaper rates.

Please contact :

The Service Centre for
Pressed Metal Products
Hood Wharf,
Walltax Road,
MADRAS.

Also

ELECTRO-PLATING AND
FINISHING SECTIONS

Apply to :

THE SUPERINTENDENT,
SERVICE CENTRE FOR PRESSED METAL PRODUCTS,
WALLTAX ROAD :: MADRAS.

India's export earnings in the financial year 1959-60 were the highest on record, except for 1951-52 which was a boom year for exports because of the Korean war.

The value of exports in 1959-60, amounting to Rs. 641 crores, was higher by about Rs. 83 crores or 15 per cent over the previous year.

Major traditional items like textile jute goods, minerals and metallic ores, leather and leather goods and spices accounted mostly for the increase.

There was a distinct improvement in the export of engineering goods.

Textile exports rose from 560 million yards in 1958-59 to 841 million yards in 1959-60. There was also a modest rise in the export of handloom piecegoods.

Tea exports were 479 million lb. in 1958-59 and 477 million lb. in 1959-60.

Scheme for Augmenting Exports of Fruit Products, Biscuits and Confectionery.

A scheme has been formulated by the State Trading Corporation for stepping up exports of Fruit products (excluding Mango Chutneys), Biscuits and Confectionery. The Scheme will be operated by the State Trading Corporation of India Ltd., New Delhi, but canalisation of such exports, through the Corporation, shall in no way affect the identity and brand of the individual manufacturer. Further, the latter will continue to receive from the Corporation which would claim and in turn make available to him such concession as would be admissible to him under the Import/Export Control and other regulations had he affected those exports independently of the Corporation.

All correspondence in connection with this scheme should be addressed to the Divisional Manager, Food and Plantation Division, the State Trading Corporation of India Ltd., Express Building, Mathura Road, P. B. No. 79, New Delhi.

Reports From Trade Representatives Abroad

Economic and Commercial Conditions in Br. East Africa : Certain changes in the import duties were announced simultaneously by all the three East African Governments. The changes are uniform except the changes in duties on oil products in Uganda. The import duty on adults' leather footwear has been increased from Shs. 1/50 per pair to Shs. 5/- per pair. Duty on leather imported for shoes has also been increased from 50 cents to 75 cents per square foot.

India is at present one of the principal supplier of the leather shoes to East Africa.

In 1958 leather shoes to the value of £ 75,968 were imported from India into Kanya, Uganda and Thanganika. The total imports of leather shoes in 1958 in these territories were £263,721 from all sources. Similarly leather shoes to the value of £ 97,981 were imported from India in 1959 in the three territories out of the total imports of £ 300,720 from all countries. The other principal suppliers are the U. K., Hongkong, South Africa, France, The Netherlands, Czechoslovakia and Japan.

It is likely that the increase in duty on leather shoes may affect India's exports and in order to maintain the existing level of exports into these territories, the prices of Indian shoes may have to be comparatively lowered. It may be mentioned here that the Batas have a factory at Lumuru near Nairobi where the cheaper qualities of leather shoes are produced. Its capacity in 1958 was 670,000 pairs of leather shoes per annum. Recently the Batas have opened another factory at Dar-es-Salaam also. The higher duty is aimed partly to exclude cheap Hong Kong Shoes and also to encourage indigenous production.

Export of Ginger to Iran: From a review of the market it has been observed that refined ginger is coming in large quantities in tins from Hongkong. Formerly ginger used to come in large quantities to this country from India in bags. The lime polish of the Hongkong ginger is very thin and is on the surface whereas our lime polish of ginger is very thin. Our Indian exporters should make a note that they must send their products in a better way than the Hongkong exporters. Reports coming from Kuwait indicate that the import of Dalda from India is dwindling every day and in its place the Kuwaitis are importing vegetable ghee from Mombassa and Daru Salaam. Japan is exporting shoes in large quantities to Kuwait some of which are smuggled to this country. These shoes are made from vinyl which looks like leather and it is quite durable. They are selling these shoes for about Rs. 7/per pair with the result that lesser number of shoes are being imported into Kuwait now and India is losing market for shoes as well. Cardamom that used to be imported from India generally are also now being imported from Colombo in a larger quantity.

RUBBER PRODUCTS & MOULDING COMPANY

ENGINEERS IN RUBBER

Post Box 11202

::

CALCUTTA - 14

★

**MAKERS OF INDUSTRIAL PRODUCTS IN
RUBBER, SYNTHETIC RUBBER & EBONITE**

★

WHEELS FOR TRUCKS AND TROLLIES, WASHERS,
LINING OF PIPES AND VESSELS, MOULDINGS
FOR CHEMICAL INDUSTRY, VALVES, BUCKETS,
DIAPHRAGMS, PRINTERS' ROLLERS, TEXTILE
ROLLERS, RLY. FITTINGS AND P.V.C. MOULDINGS.

EXPORTERS TO NOTE

Quarantine Regulations for Imported Toys in Australia: In a recent press statement the Commonwealth Minister for Health announced that his Department had impounded thousands of imported plastic toys found to contain soil or prohibited seeds. The importers had been informed that the toys must be destroyed or returned to the exporting country. This action was a necessary safeguard against human, animal and plant diseases entering Australia and spreading within the country.

The toys impounded included inflatable types containing soil ballast to keep them upright, and seeds had been placed in other toys to cause them to rattle. The Minister for Health pointed out that under the quarantine regulations, soil was a prohibited import and the importation of seeds was also strictly controlled or prohibited.

In order to avoid inconvenience and expense, exporters of toys should ensure that shipments to Australia do not contravene the quarantine regulations.

Export Opportunities

Enquiry for Parboiling Rice: The Egyptian Rice Mills S.A.E. No. 3, Rue El Horreya, Post Box No. 956, Alexandria, is interested in importing machinery for parboiling rice and has requested to be put in touch with the manufacturers/exporters of the same. Interested manufacturers/exporters are requested to get in touch with them by sending their price lists, quotations

etc. direct under intimation to the Engineering Export Promotion Council, India Exchange Place, India Exchange (7th Floor), Calcutta-1.

Trade opportunities in West Germany: In West German Federal Gazette of the 7th of April 1960, the following announcement is published for two Import Quotas which have been issued by the West German Government.

1. Tender number 73 34 94
Preserved tropical fruits,
Trade Register 20 00 78
Value 1 000 000 DM.
2. Tender Number 73 34 95
roasted and salted groundnuts,
cashewnuts, almonds and blending
thereof in tins or other containers of
less than five kg. Trade register :
080140 080510 120114

Applications for import licences are open for importers in West Germany and will be received on a proforma in the time from 13th April 1960 upto the exhaustion of the value limit, latest till 30th March 1961 with the Aussenhandelsstelle fur Ernährung and Landwirtschaft Frankfurt (Main).

Enquiries arising from Canadian National Exhibition: A list of the trade enquiries received by the Exhibition Unit of this Ministry from the Canadian Firms at the Indian Pavilion in connection with our participation in the above mentioned Exhibition is furnished below for the information of the trade.

Name of Firm	Items Interested in
1. William B. Nedilsky Commission Agent & Distributor, 417, Geneva St., St. Catherines, Ontario.	Gift articles

<i>Name of Firm</i>	<i>Items interested in</i>
2. Mr. William Horner, Box 32, Roseneath, Ontario.	Dolls, toys, handbags (ladies) jeweller; figurines and footwear.
3. Mr. Doaglas Greens, 330, Wine Wood Ave., Gravenhurst, Ontario.	Carved wooden box
4. Harry Siegel, 156, Evans Street, Toronto 18, Ontario.	Ivory chessmen
5. Croyden Hosiery Mills, 48, Hyde Avenue, Toronto, Ontario.	Corded yarn 10's and 16' in colours and also bleached white.
6. Mr. N. B. Bosch, Inter-Trade, 3, Trowell Avenue, Toronto-15, Ontario.	Neckties, shirts and gift articles.
7. Jacob Brothers, Post Box. 507, Toronto, Ontario.	Raw silk suitings and silk waste suitings.
8. Mr. Erhard Hoffmann, 74, St. Catherine Ave., Toronto, Ontario.	Silk & cotton textiles and gift articles
9. Mr. A. F. Spurr, 53, Grange Avenue, Toronto, Ontario.	Ladies blouses & clothing, rayons, cotton laces, shawls, linen table cloths, cotton & silk handkerchiefs.
10. A. Palmer Agencies, 94, Wellington St. West, Toronto, Ontario.	Bedspreads, pillow cases and draperies.
11. Empire Industries, (Wholesale Floor covering distributors) 14379 Livenois, Detroit-38, Mich. U.S.A.	Cotton yarns for carpet industry, rubber padding (carpet underlay) and machine made carpeting.
12. Peter Ulmer Distributors, 203, Rodney Street, Waterloo, Ontario.	All types of clothing; household items e.g. pictures, sandles and cloth.

<i>Name of Firm</i>	<i>Items Interested in</i>
13. Delta Trading Company, 3116 Dundas Street West, Toronto, Ontario.	Upholstery fabrics.
14. Expo Overseas Trading Co, 4, Durgin Street, Rechester-5, New York, U.S.A.	Highest quality tea
15. Wally Trading Co. Ltd., 5890, Monkland Ave., Toronto, Ontario.	Coir mats & mattings
16. Mr. S. Diament, De Ruterkade 7a, Rio Canarioweg-32, Curcao NA, Dutch West Indies.	Coir mats & leather goods
17. Mr. J. K. Munz, 15, Rose Park, Toronto-7, Ontario.	Jute & jute products
18. Spegels Building Supply Co. Ltd., 96, Gordon Street, Guelph, Ontario.	plywood and shoft wood
19. Factory Agencies, 60, Front Street, Suite 708, Toronto, Ontario.	Footwear; sandal type footwear (for agency).
20. Ball Footwear Co., 860, Richmond West, Toronto, Ontario.	Leather; ladies' sandals
21. Keslick Importing C. Ltd., 21, King Street East, Toronto, Ontario.	
22. Robert Simpson Co. Ltd., Toronto, Ontario.	Footwear
23. C. D. Sanderson, 125, Lawton Blvl., Smite 406, Toronto, Ontario.	Sandals; slippers (handpainted or handmade)

<i>Name of Firm</i>	<i>Items Interested in</i>
24. Mr. Douglas Pederson, Clerke & Clarke Bales Co., Hohn Street, Barrie, Ontario.	Leather; skins, hides for handbag and shoe trade.
25. William Hutchinson, Cathedral Separate School, Kingston, Ontario.	Shellac
26. Mr. Jahalect Hamperign, 182, Hastings Avenue, Toronto-6, Ontario.	Mica 'HL'
27. Mr. Frank Cohen, 26, Prestor Road, Toronto-10, Ontario.	Carpets & rugs, palm oil; peanut oil and sewing machines.
28. Mr. William Horner, Box 32, Peseneath, Ontario.	Chine; table accessories
29. Mr. D. Orlicki, 77, Perth Avenue, Toronto, Ontario.	20" strake metal cutting shaped (cooper Engineering Works).
30. Divco Ontario Sales, 200, Bedford Road, Toronto-5, Ontario.	Diesel meters & complete trucks.
31. Mr. S. I. Ellis, 949, Brimorton Dr., Scarborough, Toronto, Ontario.	Foodstuffs; chocolates & candle canned shrimps; chicken curry; biscuits, condiments, spices and tea (Brooke Bond).
32. G. McEachran-p-Clifford, 20, Hay Avenue, Mimico, Toronto-15, Ontario.	Sports equipments; footballs; synthetic fabrics hockey, baseball, badminton etc.
33. M. M. Variety products, 162, Queen Street West, Toronto, Ontario.	hempseed oil: hemp seeds; sunflower seeds; honey and beeswax.
34. Albany Pump Company Ltd., 840, King Street, West, Toronto, Ontario.	Pump & pumping equipment.

EXPORT OF LEATHER

The leather export trade in India has set up a record in 1959. During 1959, the total export trade of raw hides and skins, as well as tanned leather and leather goods including footwear, amounted to Rs. 415.4 million as against exports of the value of Rs. 270.9 million in the previous year. The export value of East India tanned hides and skins was Rs. 256.7 million as against Rs. 168.1 million in 1958. The export values of finished leathers and leather goods had also gone up considerably. It was Rs. 54 million in 1959 as against Rs. 32.8 million the previous year. Compared to the year 1958, the export value of leather manufactures including boots and shoes (all leather) has gone up by Rs. 7.6 million, which is indicative of the fact that there is a growing demand in foreign countries for leather manufactures also. During the year 1959, leather manufactures of all sorts excluding boots and shoes (all leather) valued at Rs. 16.59 lakhs were exported. During the year 1958, their export value was Rs. 16.43 lakhs. Likewise during the year 1959 boots and shoes (all leather), valued at Rs. 2.55 crores were exported, whereas their export value during the year 1958 was Rs. 1.78 crores.

Remittance of Commission to Agents Overseas on Exports from India

Remittances by exporters in India on account of commission due to agents abroad on business done through them require the prior approval of the Reserve Bank. The exporter has to fulfil certain procedural formalities before the remittance is approved by the Reserve Bank. Such remittances are permitted by the Reserve Bank of India, Bombay, on production of satisfactory evidence that the payment is in accordance with the agreement made between exporters

and foreign importers. All applications for such remittances should be supported by statements signed by the applicants giving full particulars of shipments made on which the commission is due, together with certificates from their bankers showing the value and type of bills negotiated against the shipments. Claims received from the foreign agents should also be submitted, wherever possible. Where goods are sold through an agent resident in a country other than that of the buyer, remittance of commission due to the agent may be made either in the currency of the country of the beneficiary or currency of any country in the same group or in rupees or sterling to an appropriate non-resident account, even though payment for the goods has been obtained from the foreign importers in the currency of the country to which the goods were exported. Exporters are at liberty to deduct the commission from the relative invoice, and to draw the bills for the balance on the buyer, it being assumed that the commission payable to the foreign agent is reasonable and is in conformity with the prevailing practice of the particular trade. Where the buyer and the selling agents are two different persons, the Reserve Bank of India allow the authorised dealer to arrange for the payment of the commission through his overseas correspondent from the amount collected from the buyer and to remit the balance only to India. This procedure goes a long way to remove complaints of delay from the overseas agents of exporters in the receipt of commissions. As regards deduction of income-tax on commission earned by agents overseas, if a foreign agent of an Indian exporter operates in his own country no part of his income arises in India. Usually his commission is directly remitted to him and is, therefore, not liable to Indian income-

tax. However, if the commission of the foreign agent is received by him or on his behalf in India, such commission will be liable to Indian income-tax on the basis of receipt, and the tax will therefore, have to be deducted by the payer at the time of payment. The person who makes the payment to the foreign agent can, however, ask the Income-tax Officer under Section 18 (3C) of the Indian Income-tax Act to determine by general or special order, the appropriate portion of the same which would be chargeable in the hands of the foreign agent and in respect of which tax is deductible.

Incentive for Export:

(1) *Drawback Rate for Tinplates*:—Consequent on the recent enhancement of the excise duty on Tinplates it has been decided by the Government of India to raise the rate of drawback on Tin containers exported from Rs. 60 to Rs. 276.50 per ton of tinplate content with effect from 11th June, 1960.

(2) *Duty Rebate for Export of Cinema Films*:—The Central Board of Revenue has decided that the privilege of export in bond or under claim for rebate of duty may be extended to approved exporters, who are not themselves laboratory owners, and who export exposed cinematographic films from licensed laboratories, subject to certain conditions. One of the conditions is that such films are unused, and are exported direct from a licensed laboratory. The export under claim for rebate of duty is allowed only on payment of the highest rate of duty, namely, 30 nP. per metre. If the exporters desire to have packing and sealing of the films at places other than the laboratory, these could be done under the Excise supervision in places approved by the Assistant Collector of Central Excise on payment of fees. Exporters are also allowed the facility of exhibiting the prints intended for export to overseas buyers or their authorised agents.

SPRINGS AND SPRING WASHERS MODERN ENGINEERING WORKS

SPECIALISTS IN SPRINGS AND SPRING WASHERS,
MANUFACTURING BRASS AND IRON MACHINE
SCREWS, PRESS NUTS, COPPER RIVETS ETC.



No. 12, Jadu Pandit Road,
(Ground Floor)

P.O., Beadon Street, :: CALCUTTA - 6.

INDO-HUNGARIAN TRADE AND PAYMENT AGREEMENT

The Trade Agreement concluded with Hungary on 17th June, 1954 and later amended by a Protocol on the 15th June, 1959 expired on 30th June, 1960. A new Trade and Payments agreement was signed on the 25th June, 1960 and came into force from 1st July, 1960. The new agreement is valid for a period of three and half years.

Under the new agreement, payments for all commercial and non-commercial transactions between India and Hungary will be made in non-convertible Indian rupees. It is also the intention to balance the trade between the two countries at a higher level than before.

Hungary is to import from India tea, coffee, vegetable oils, oil-seeds, tobacco, jute, and coir products, mica, iron ore and steel billets, de-oiled meals, raw cotton, semi tanned processed skins, cotton and woollen fabrics, handloom and handicrafts products, sports goods and light engineering goods.

India's imports from Hungary will consist mainly of various types of machinery, photographic material, film projectors, tools, including pneumatic tools, precision tools etc. electric supply meters, pharmaceuticals and drugs in bulk, textile and material testing instruments, garage tools, machine tools, refractory bricks, radio transmitting and receiving tubes and radio parts.

Freight Concession:

(i) Railways:

The Railway Board have agreed to allow a rebate of 50% in railway freight on absolute alcohol, industrial alcohol, denatured and

rectified spirit (50% proof and above) and power alcohol when booked from certain distillery stations in U. P. to Budge for export to continental countries (except the U. K.).

(ii) Ocean:

The Shipping companies have effected some reductions in freight rates for shipment from India of certain engineering goods viz., sewing machines, diesel engines, pumps, crown corks, electric fans and galvanised iron buckets.

Exports of Cashew Kernels

Trend of export of cashew kernels from India since 1951-52 has been rising. Exports during 1951-52 to 1955-56 averaged 28,000 tons valued at Rs. 113 million. In 1956-57 quantity exported was 31,000 tons valued at Rs. 145 million. By 1959-60 shipments rose to over 38,000 tons valued at Rs. 160 million.

More than 68 percent of India's exports of cashew kernels were absorbed by U. S. A. In 1959-60 U. S. A. imported more than 26,000 tons of cashew kernels from India. In order of importance other important customers were U. S. S. R. (4,400 tons), U. K. (1,950 tons), Canada (1,200 tons) and West Germany (1,170 tons).

As a result of intensive export measures, new markets have been found for Indian cashew kernels. In 1959-60 Japan imported 140 tons of Indian cashew kernels. There is every possibility of exports to this country increasing substantially in the next two

years. Iran was another new market and in 1959-60 her offtake was 210 tons.

Export promotion measures have also been successful in respect of West Germany. Exports to West Germany increased from 420 tons in 1957-58 to 1,170 tons in 1959-60.

Further improvement in exports of cashew kernels in 1960-61 is expected.

Source: Paper & Cashew E. P. C, Bulletin ; July ' 60)

Statement showing Exports
of Cashew Kernels

	1957	1958	1959
	(Rs. in lakhs)		
Cashew Kernels			
(Total)	14,73	15,47	15,18
Cashew Shell Oil	48	29	40
Export of Cashew Kernels to principal destinations			
Total	14,73	15,47	15,48
U. S. A.	10,95	10,94	10,60
U. K.	1,15	94	78
Canada	61	56	55
Germany Western	21	22	35
U. S. S. R.	93	2,01	1,83
Australia	34	28	27
Sweden	4	6	5
Germany Eastern	17	2	23
Netherlands	4	10	7
HongKong	8	9	8
NewZealand	5	4	3

An Export Promotion Council
for Spices

An Export Promotion Council for Spices with its registered Office in the State of Kerala has come into being. Pepper, Cardamom and other Spices which attracted fore-

igners to India centuries back, continue to be our important sources of foreign exchange and have a vital role in our programme of export promotion. Export Promotion, which has been widely acclaimed as the most constructive activity that our country has launched upon since Independence, can achieve the success it deserves only with the active co-operation and support of trade interests. It is only with this view, namely, to enlist the non-official co-operation and to canalise the individual efforts of exporters in their attempts to develop and diversify the foreign markets for Spices, this organisation has been set up. This will be the fourth link in the chain of Export Promotion Councils in the Southern Region, the other three being for Leather, Tobacco and Cashew.

The Council will have the following commodities under its purview :

- (i) Black pepper.
- (ii) Cardamoms.
- (iii) Ginger.
- (iv) Turmeric.
- (v) Chillies.
- (vi) Curry Paste & powder.
- (vii) Coriander seed,
- (viii) Celery seed.
- (ix) Fennel seed
- (x) Penugreek seed,
- (xi) Cummin seed,
- (xii) Ani seed.
- (xiii) Tejpat,
- (xiv) Mace and
- (xv) Cassia.

The number of members of the Council shall be unlimited, but the number of different members under each category shall not be less than :—

(1) 6 officials nominated by the Union Government,

(2) 3 non-officials nominated by the Union Government.

(3) 21 non-official members elected by the Panels after their formation, as detailed below :—

(a) 4 members elected by the Panel for Pepper,

(b) 4 members elected by the Panel for Cardamom,

(c) 2 members each elected by the Panel for Turmeric, Ginger and Chillies respectively.

(d) 7 members elected by the Panel for Coriander, Curry Powder, Fennel seeds and other Spices.

The Council shall form *Panels* for Pepper, Cardamom, Ginger, Turmeric and Chillies respectively and a general Panel to represent interests relating to Coriander, Curry Powder etc. The Panel shall consist of

persons, firms, companies or other corporations, associations or other bodies engaged in growing, processing, purahase or sale of Spices for a period of 2 years, who agree to be members of the Panel and pay to the credit of the Council a non-refundable sum of Rs. 100 per year in return for the *right to elect* members to the Council. These persons should also give an undertaking that they would abide by the code of conduct that may be prescribed by the Council and co-operate with any developmental activities that the Council may launch upon in the interests of Export Promotion. The formation of the Council is thus truly an experiment in building up an organisation from the foundation of primary members for a national purpose.

We have a potential market for our Spices in almost all the parts of the world. Pepper is used as a flavouring medium and as a preservative in the meat packing industry. Cardamoms are used as a culinary additive and Turmeric as a dye-stuff. The

PHONE: 189

TEL: Srikrishna

WOOD

S. K. INDUSTRIES

WOOD, LATHE AND CASTING WORKS

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

70, T. P. K. ROAD

::

MADURAI

other Spices like Ginger, Chillies etc., are used in the preparation of curries, pickles and sausages.

The area under cultivation and the quantum of production of some of the *Important* Spices during the year 1959 are as follows:—

Commodity.	Principal growing areas.	Acreage under cultivation.	Quantum of production.
Pepper	Kerala, N. Kanara, Coorg.	2,32,000 acres.	25,400 tons.
Cardamom	West Coast covering parts of Mysore, Kerala and Madras State.	1,25,000 acres. (approximately)	2,300 tons. (approx)
Turmeric	East Coast of Andhra, Orissa State, Coimbatore and Trichy Districts in Madras, the West Coast, Satara, Surat and Sangli in Bombay.	1,35,000 acres.	1,20,000 tons.
Ginger	Kerala, Andhra Pradesh, Bengal and Bombay.	38,000 acres.	14,000 tons.

The following is a statement showing India's exports of various Spices, during the years 1957, 1958 and 1959.

Name of commodity.	1957	(Value in Rs.) 1958	1959
Black Pepper	3,11,95,301	2,98,20,048	4,27,18,419
Cardamoms	2,49,57,331	3,56,74,794	3,28,68,766
Ginger	1,19,15,661	51,23,962	52,12,166
Turmeric	65,37,593	50,01,155	25,94,773
Chillies	65,61,323	78,94,105	31,66,624
Curry paste & powder	26,34,650	26,32,786	36,93,936
Coriander seed	21,76,057	16,30,353	7,04,059
Colery seed	17,71,334	18,59,681	19,64,457
Fennel seed	13,20,790	19,18,722	17,07,466
Funugreek seed	7,60,964	8,28,678	9,93,974
Comminseed	6,39,829	6,68,322	35,43,385
Aniseed	75,104	35,507	7,18,166
Tejpat	28,837	23,362	59,607
Mace	15,521	13,497	10,137
Cloves	10,490	4,212	9,257
Nutmegs	9,123	—	—
Cassia	4,104	19,263	4,329
Badian seed	4,049	301	3,002
Saffron	3,298	989	2,633
Cinnamon seed	1,723	1,386	4,287
Others	1,11,483	66,719	43,24,872
	9,07,89,593	9,33,14,859	10,43,58,892

It may be observed from the above statement that Spices contribute about Rs. 104 millions per annum to the country's export earnings. Pepper is at the top of the list with Rs. 43 millions followed by Cardamoms valued at Rs. 33 millions. The export earnings from Ginger, chillies and Turmeric are Rs. 5 millions, 3 millions and 2.6 millions respectively, the remainder being that of the other minor spices.

The number of countries whereto *Pepper* was exported in 1955-56 from India was 53. Though this number had increased to 67 in 1956-57 it subsequently fell down to 66 in 1957-58 and to 57 in 1958-59. The export of Pepper increased from 13,000 tons in 1955-56 to 14,800 tons in 1956-57, but subsequently fell to 13,500 tons in 1957-58 and to about 11,471 tons in 1958-59 in sympathy with the increase and subsequent decrease in the total number of importing countries. Due to fall in price of Pepper the export earnings showed a continuously decreasing trend. The total export value decreased from Rs. 4.7 crores in 1955-56 to Rs. 3.4 crores in 1956-57 to Rs. 2.8 crores in 1957-58, and to about Rs. 2.5 crores in 1958-59.

But in the year 1959-60 there was a remarkable recovery both in the quantum and value of the Pepper exports. The exports suddenly shot up to 20,332 tons valued at Rs. 8.2 crores, thanks to the efforts of the Cashew & Pepper Export Promotion Council, under whose jurisdiction Pepper remained until recently. The main markets for Indian Pepper are the USA and the USSR. There is ample scope for increasing our exorts of Pepper to Czechoslovakia, Poland, Hungary, Rumania, Germany-West and East, Italy, Canada and Yugoslavia. The most important problem with regard to export promotion of Pepper is, though the foreign demand for our Pepper is more or less constant, the export value has declined as a result of

competition from cheap Indonesian and Sarawak Pepper. Steps are therefore being taken to explore the possibilities of arriving at a price-understading between all the pepper producing countries, to avoid competition in the world market, on a long-term basis.

India holds the pride of place being the principal *cardamom* producing country and the largest exporter of 'true' cardamoms in the world market. It has been estimated that more than two-thirds of the annual production is exported and the balance is used for internal consumption. Between 1952 and 1958, the value of exports of Cardamoms has steadily increased and doubled itself at the end of 1958 and towards the close of the year 1959 our export of this item is estimated to be of the order of Rs. 3,28,68,766. The main markets for Indian Cardamoms are Sweden and Saudi Arabia. The problems at present faced by the export trade in Cardamoms are the increasing competition from Guatemala, consumer preference for Guatemalan and Ceylonese cardamoms and growing uses in importing countries of synthetic and other substitutes for Cardamoms.

Ginger:—produced in India is mainly exported to Aden, Arabia, Egypt, Iran, USA, and U. K. while that produced in West Indies and British West Africa is generally exported to UK, USA, Canada and other countries. Our exports of Ginger have been declining in recent years, mainly due to increasing competition from Jamaica and Seira Leone, whose Ginger is found to be cheaper and also of a superior quality, having less fibre-content.

Export of *Turmeric* which was of the order of about 1 crore during the years 1954, 55 and 56 had declined steadily from then and at the end of the year 1959, it was valued at

Rs. 52,12,166. The striking feature about export of this item is that although there is a gradual decrease in the value of our exports since 1955, the quantum has been progressively on the increase, the 'price-factor' being a matter of serious concern to the Trade.

Ceylon and the Middle East are our chief customers for *Chillies* and more than 99% of our exports of this commodity in the years 1957 and 58 has been imported by Ceylon. Japan, China, Thailand and Indo-China are our competitors in the Ceylon market. In the year 1959, our exports of *curry-powder* and *curry-paste* amounted to about 1,200 tons valued at Rs. 3.6 millions. These products are sent to as many as 60 countries, European countries being the main customers.

A number of other *minor-spices* like Celery seed, Coriander seed, Fennel seed, Cummin seed and Fenugreek seed are also being exported from India and the total value of foreign exchange earned by them amounts to approximately 3 million rupees. Celery seed goes mainly to USA, her share being 80%: Coriander to as many as 40 countries, the off-take of this commodity being more evenly spread although such markets as Ceylon, Singapore, Malaya and Kenya, absorb among themselves about 80 percent. Fennel seeds are imported by Ceylon, Singapore, Malaya and USA. The chief markets for Cummin and Fenugreek seeds are Aden and Ceylon respectively.

Eventhough we are now in a comparatively favourable position with regard to our Spices in the foreign markets, we cannot afford to overlook completely the increasing competition from our neighbouring countries. The need of the hour, therefore, is that producers, exporters and the Government should march ahead, hand in hand

with a firm determination to achieve higher exports year to year. It is not infrequently that complaints are received about the deterioration in the quality of the goods supplied by the Indian exporters. To ensure that the interest of the buyer is safe-guarded and the reputation of our goods is maintained in the foreign markets, compulsory and voluntary schemes of Quality Control are being evolved and put into operation. A system of Quality Control, involving pre-shipment inspection scheme more than anything else is the largest factor which creates in the importing countries the necessary confidence and the atmosphere for the uninterrupted inflow of our goods.

Already certain special schemes for offering incentives to export promotion, such as supply of packing materials for export at concessional prices have been put into operation, and increasing number of exporters of Cardamoms and curry-powder have been availing of the incentives. Every effort is being made for promotion of export of new items and for the development and diversification of the market for the same. It is hoped that exporters will come forward in larger numbers to co-operate with the Government in their export promotional measures, which are bound to yield larger results in course of time.

Appointment of Honorary Adviser

Shri V. Ramakrishna has been appointed as a Honorary Export Promotion Adviser at Madras to the Ministry of Commerce and Industry, Government of India, in the place of Mr. Philip Hadfield and Mr. Noel Todd, who have resigned. His jurisdiction will be comprised of the States of Madras, Mysore, Andhra-Pradesh, Kerala, Pondicherry, Karaikal, Mahe and Yanam.

The Honorary Adviser will keep himself informed of the export promotion problems

in the Southern Region and bring to the notice of the Central and State Governments and other authorities concerned, such problems as stand in the way of increasing India's exports and recommend remedies. He will also preside over the meetings of the Madras Port Export Promotion Advisory Committee.

The Chambers of Commerce and other Trade Associations, Export Promotion

Councils, Commodity Boards etc., others interested in developing foreign markets for Indian goods may address Honorary Export Promotion Adviser such problems that they consider deserve his attention. His address is:

Shri V. Ramakrishna,
Sundra Mahal,
Peters Road,
Madras-14.

EXPORT PROMOTION ADVISORY COUNCIL MEETS

The Union Minister of Commerce and Industry, Mr. Lal Bahadur Shastri said he was confident India would achieve the export target of Rs. 2,964 crores for the Second Plan. The exports for the plan had already totalled Rs. 2,445 crores.

Winding up the proceedings of the Export Promotion Advisory Council, he announced that export control on 70 items would be removed completely.

He appealed to the people to consume less. Willingness to accept some sacrifice would create the psychology to export more.

Mr. Shastri described the export performance in the first six months of 1960 (Rs. 302 crores) as "good but not good enough in view of our foreign exchange position". He called upon all industries to step up their exports so that a target of Rs. 650 crores was reached during the year.

He asked particularly the tea industry to increase its exports during the next six months, and the textile industry to reduce its price to maintain the present level of exports.

The Minister said the Government proposed to remove shortly export control completely on 70 items. These would include agricultural commodities like green coconuts, gum arabic and miscellaneous seeds; among manufactured goods a number of chemicals such as calcium carbide certain engineering goods like electrical instruments and gas and petrol engines certain metal manufactures like copper wires, copper sheets, circles, strips and plates, lead alloys and other manufactures like rubber belts and belting and vessels for inland and harbour navigation.

Mr. Lal Bahadur said he proposed to appoint a small committee with the Deputy Minister as Chairman and some officers to consider the increased possibilities of exports of half a dozen items, and also to recommend the necessary steps to be taken for fulfilment of that object. Some of the items are agricultural products like tobacco and oilseeds and also sugar.

He hoped that a scheme to afford credit facilities to exporters would be prepared by the study group already appointed and implemented after examination.

He said India had an adverse balance of trade with the six countries comprising the European Common Market to the extent of Rs. 142.6 crores in 1959 which was more than 50 percent of India's total trade deficit of that year.

The imbalance could not be allowed to continue for a length of time. India had to find out ways of balancing her overall trade by exporting more to this area or alternatively she might have to cut down her imports from this group of countries.

Stressing the importance of establishing show rooms in other countries to exhibit Indian products, the Minister suggested the setting up of a joint committee consisting of representatives of Government and the Federation to go into the matter.

INDO-BRITISH TRADE

The value of India's exports to Britain during the first half of this year rose by £ 8,866,000 over the first six months of 1959. India's exports to the United Kingdom totalled £ 70,005,000 in the six months.

Compared with the first half of 1959, the trade gap between India's exports to, and imports from, Britain was reduced from £ 21,650,000 to £ 8,597,000. Britain's exports to India were worth £ 78,603,000 compared with £ 82,789,000 last year.

The largest individual item in India's export list was tea, the value of sales to Britain rising to £ 23,219,000 compared with £ 20,708,000 for the first half of last year.

Although exports of tobacco increased during the first half of the year, India took third place among Britain's suppliers. The half-yearly figure was £ 7,352,000 compared with £ 6,651,000 in the first half of 1959,

when India was Britain's largest supplier of tobacco.

Leather also became a more important export for India, the half-yearly total rising to £ 7,519,000 compared with £ 5,755,000 during the corresponding six months of last year.

Cotton yarns and woven fabrics registered an appreciable increase, exports rising in value to £ 7,938,000 compared with £ 4,864,000. Most of this figure (£ 6,823,000) was accounted for by grey, unbleached, wholly cotton materials.

In the other direction, India imported £ 23,140,000 worth of machinery (other than electric), compared with £ 25,848,000 worth in the first half of last year. Electrical machinery accounted for another £ 8,027,000 a decrease of about £ 1,500,000.

Another major item was road vehicles and aircraft worth £ 11,606,000 about £ 2,000,000 less. Of this figure, aircraft accounted for £ 4,60,000 about half the figure for the first six months.

India's purchases of ships and boats totalled £ 3,002,000 compared with only £ 63,000 in the first half of last year.

(Source: "Economic Record" published by British Information Service).

EXPORT OPPORTUNITIES FOR INDIAN GOODS IN ADEN

Market possibilities of Indian Products: Aden is an important trade centre as it functions as an entrepot for certain neighbouring territories such as Aden Protectorate, Yemen and Somaliland. Aden has practically no industries and she, therefore, imports all her requirements (including foodstuffs, clothing material, construction material and other types of

consumer goods) from abroad and also re-exports some of these goods to the neighbouring territories.

U.K.'s share in the total imports of £ 35 mill. amounted to £ 6.63 mill.

India came next as the main supplier of goods to Aden with a total of £ 4.13 mill. in 1959. Out of her total supplies, cotton textiles accounted for 44 per cent. The other principal commodities supplied were un-manufactured tobacco and spices. Besides these, India supplied a host of other items, but their quantity was small.

India's nearest rival, Japan, supplied goods worth £ 4.12 mill. She was able to take the lead in many cases owing to her low prices and attractive packing.

Electric Fans: Because of the heat and humidity electric fans are extensively used in Aden. The main suppliers are the U.K., Japan, India and Italy. According to unofficial estimates some 1,400 fans were imported from India during 1959. Indian exporters, may however, be careful about their date of delivery, which is very important.

Plastic goods: Indian plastic goods have made a very satisfactory progress during 1959 and accounted for £ 25,000 out of the total imports worth £ 71,000. Hong Kong was the nearest rival with £ 18,000.

Indian firms may try to exploit the existing favourable climate and increase their exports as there is a good market for these goods in Aden.

Biscuits: During 1958, the value of imports of Biscuits amounted to £ 127,309 of which Denmark and the U.K. took a share of 80 percent. India's exports amounted to only £ 4,022. Although this figure is higher in comparison with previous

years, serious efforts should be made by Indian Exporters to capture a larger share of this market in this commodity. The main hindrance in this respect is the price factor, which should be considered carefully.

Readymade Garments: Large quantities of readymade garments are imported into Aden. They consist essentially of two categories, namely, underwear (vests, etc.) and outerwear (shirts, pants etc.) Imports of underwear during 1958 were valued at £ 154,521 out of which Japan and Hong Kong had a share of £ 126,000. India's share was only £ 12,000. As for outerwear total imports during 1958 amounted to £ 450,172. While the share of Japan and Hong Kong was £ 383,000. India accounted for only £ 15,000. The popularity of the Japanese and Hong Kong products was due to their low price, attractive packing and satisfactory tailoring. Since the demand for readymade garments is fairly large, Indian firms may pay adequate attention to these factors and strive to increase their supplies.

The favourable position that India now occupies in the Aden market is based on just a few commodities such as cotton textiles, unmanufactured tobacco and spices. If these commodities are excluded the general trend would show that Indian goods occupy a very small place. The main obstacle for Indian products is their high prices as compared to similar products from Hong Kong and Japan. There is also much room for improvement of the quality and packing, which is more pronounced in such commodities as readymade garments, preserved fruits and confectionery. There are also certain complaints about the unsatisfactory business dealings of a few Indian exporters. Unless particular attention is paid to these points there is a possibility that India may lose the ground to other countries, despite her decided advantages in

view of the proximity of this market with a large potential.

Market Possibilities of Bananas in Japan: Information has been received from the First Secretary (Commercial), Embassy of India, Japan, that the Government of that country have recently announced that they would allocate foreign exchange shortly for the import of Bananas into Japan from countries other than Formosa. It is understood that Bananas were heretofore being imported from Formosa only at a price of approximately \$7 (C. I. F. Japan) for one basket containing 400 pieces. During the last fiscal year Japan imported Bananas

valued at \$6,500,000 from Formosa. The government of Japan have increased the foreign exchange allocation for this purpose for the fiscal year 1960 to \$10 million of which \$8,500,000 for the import from Formosa and the remaining \$1,500,000 for the import from other areas.

Firms or individuals in India interested in the export of Bananas to Japan may approach the First Secretary (Commercial), Embassy of India, Tokyo, Japan under intimation to the Director-General of Commercial Intelligence and Statistics, 1, Council House Street, Calcutta-1 furnishing their Bank and other trade references.

IMPORTS AND EXPORTS

1. The import policy in recent years has been formulated with the object of conserving foreign exchange for essential imports, including raw materials for industry, and maintaining the tempo of production generated by economic development.

2. As industrial production at home expands, imports are correspondingly curtailed. The needs of export promotion are also taken into account in framing the import programme.

3. The total value of imports in 1959 was Rs. 887 crores. Goods worth Rs. 878 crores were imported in 1958 and Rs. 1,068 crores in 1957.

4. The balance of trade deficit, which was Rs. 412 crores in 1957, was reduced to Rs. 265 crores in 1959.

5. Exports in 1959 were valued at Rs. 623 crores—a new record. The value of exports in 1958 was Rs. 562 crores and in 1957 Rs. 602 crores.

6. In 1959, industrial goods constituted 62 per cent of the total imports, capital goods 14 per cent, wheat and rice 13 per cent and other items 11 per cent.

7. During the same year 42 per cent of India's exports were made up of wholly or mainly manufactured articles, 31 per cent of food, drink and tobacco, and 26 per cent of raw materials and mainly unmanufactured articles.

8. A number of export promotion measures have been adopted with the object that export earnings should pay for imports.

9. To encourage exports, over 200 items were freed of control in 1958, and free licensing for a number of other commodities was introduced. Subsequently more commodities have been freed from control or freely licensed for export.

10. The import and export of goods into and from India is regulated by the Import

and Exports (Control) Act, 1947. As amended, the Act is valid until the end of the Third Plan.

11. The import and export control is administered by the Organisation of the Chief Controller of Imports and Exports (under the Ministry of Commerce and Industry).

12. Besides the Headquarters' office, the Organisation has offices in Bombay, Calcutta, Madras, Ernakulam, Pondicherry, Vishakhapatnam, Rajkot, Kandla, New Delhi, Shillong and Amritsar for different regions.

13. During 1959-60, 3,91,058 import licence applications were received. All but 6,762 had been disposed of at the end of the year.

14. The number of export licence applications during the same period was 1,39,773, all but nine of which had been disposed of.

15. Every week nearly 2,600 people meet the import and export officers. In 1959-60, 1,33,816 persons were given interviews. The office in Bombay led with 33,316 interviews.

16. An Import Advisory Council, consisting of business representatives as well as economic and commercial experts, advises Government on the framing of the import policy.

17. A similarly constituted Export Promotion Advisory Council recommends measures for stimulating exports.

ESTATE THEATRE

INDUSTRIAL FILMS

**Review of industrial films shown at the
Technical Information Section, Industrial
Estate, Guindy, during April-June 1960.**

TRANSFER OF POWER

Primitive man invented the lever and later the wheel. Modern man has used these in complex mechanisms, especially by cutting teeth on wheel-rims to give positive motion, and by providing proper lubrication. Wind mills, pumps, textile machines, locomotives, automobiles and power-driven ships are some of the applications which have followed the progress in craftsmanship.

★

STEAM TURBINE

The Rotary steam-engine; early design of Hero of Alexandria and Bramca, and the Pelton wheel. Parsons' steam-turbine explained by animated diagram. Turbines fitted in ships, and turbogenerators in large power stations.

DIESEL—THE MODERN POWER

Shows how the diesel engine works. Principles of four-cycle and two-cycle types. Wartime use of diesel engine in tanks and landing craft. How polynesian tribesman produced fire by compressing air. A simplified diesel engine put together piece by piece and non-technical explanation of the function of each part. Further of diesel power.

★

BORAX

Atomic research experiments. Describes preliminary experimental work and the construction and the operation of a boiling water power Reactor. Practical results are shown through the lighting of the city of *Arco, Idaho*, by nuclear power from this experimental plant known as *Borax*.

AIR SCREW

Although an air screw or propeller looks simple, its manufacture involves high technical skill. The blades are heavily stressed in service, so that their material, form, surface and accuracy must be carefully tested. The hub, with the complicated precision mechanism for adjusting the blade angles to suit the conditions of flight, demands similar care.

★

WATER WORKS

This film on water supply of Britain shows the various sources of water, and how they are tapped. The cleaning and sterilization of water is then shown and finally its house to house supply.

(1) *Village Blacksmithing* :—

Demonstrates use of better hand and power tools in Village and small town conditions.

(2) *Village Carpentry* :—

Demonstrates use of better hand and power tools for carpenters.

★

LUBRICATION OF THE PETROL ENGINE

Friction involves wear, loss of power and heat evolution. Petrol engines depend on efficient lubrication—upto speeds of 90 revolutions per second. Pistons at high temperature oscillate in their cylinders, the provision of efficient lubrication of pistons while preserving gastightness is one of the many triumphs of technical skill in petrol engines.

★

THE BESSEMER CONVERTER

Shows the construction and working of the Bessemer converter and the chemical reactions involved in converting blast

furnace metal into steel. Acid and basic processes compared.

Very suitable for student audiences, especially in those countries not having heavy industry.

★

FOR FULLER PLANT UTILIZATION

This film is of special interest to industrialists, factory managers, foremen, supervisory engineering staff, in any production plant as well as prospective factory owners and administrative and supervisory staff. It shows better practices which will help to get fuller advantage from men and machines employed at a plant. In the main the film shows better factory layouts, better housing and other facilities for workmen by improved maintenance and materials handling techniques.

★

ELECTRO-MAGNETIC INDUCTION

The generation, by induction, of current in a conductor situated in a magnetic field of changing intensity, is shown by animated diagrams and an electrically operated model Railway.

★

THE STORY OF PAPER MAKING

The film traces the development in paper making and the spread of printing across the world. The making of papyrus is demonstrated, then the making of paper by hand in the Far East. The film by means of comparison, shows how little methods have changed in the making of paper by hand since early middle ages while the processes involved in paper making by machine are given adequate coverage.

ACHIEVEMENT IN STEEL

This film offers an excellent example of the processes of free enterprise, including plant development, competition and production to meet market demands. It traces the growth of one of America's largest steel companies—the National Steel Corporation with its 30,000 employees producing six million ingot tons of steel a year.



AND NOW TOMORROW

Begins with ceremonies in connection with the granting of independence by the British Government to the new commonwealth state of Ghana and links the country's past with its present and future. The opportunities and responsibilities of the new nation unfold as picture and narrative, describe its people and resources, its traditions and culture, its achievements and aspirations and the foundations being laid for continuing progress.



AUTOMATION—SEE IT NOW

Edward R. Murrow conducts interviews on aspects of automation with scientists,

industrial and labour leaders as well as the "Mauk and file". This film is a definitive study in this important development in the field of technology. Of particular significance are the interviews with Walter Reuther of the CIO, on the attitude of labour, and with the Ford Motor Company Executive on the advances of Soviet Automation.



NEVADA AND ITS NATURAL RESOURCES

The State of Nevada in the Western Part of the United States is described and pictured in full colour in this film. The tremendous mining and metallurgical industry as well as agriculture and cattle raising are described in brilliant pictorial detail.



HUMAN BODY

An animated Cartoon by Walt Disney explaining the elementary facts about anatomy, including muscular construction of the body, respiratory, blood, and nervous systems, emphasizing importance of well balanced diet, fresh air, and personal cleanliness.



Indian Woods

'Indian Woods', a comprehensive publication in six volumes by the Wood Anatomy Branch of the Forest Research Institute, Dehra Dun, when completed will fill the long felt needs of not only Foresters but all those who are connected with wood and wood products.

India has got about 2,000 plant species which are capable of producing this valuable raw material for trade and industries. For the proper utilisation of this timber wealth, a knowledge of the structure, identification, properties, availability and uses of the woods of these species is essential.

So far, the only book on the subject was Gamble's Manual of Indian Timbers, consisting of only one volume, first published about eighty years back. This has long become out of date due to the rapid advances made during the last fifty years in various fields of timber technology.

The present work in six volumes will incorporate the latest advances made in the field. Volume one of the "Indian Woods" dealing with 280 species of timber has recently been published. Volume two has almost been completed and will shortly be

ready for the press. This deals with 262 timber species belonging to 23 families comprising the group Discifloreae of Bentham and Hooker's classification.

For each species, besides the description of the wood, habit and distribution have also been given in brief. Under the description of the wood are included general properties such as colour, hardness, weight, grain and texture and the anatomical structure as seen with the naked eye or with the help of a hand lens magnifying about ten times.

In addition, wherever possible, information on strength, seasoning, durability, insect and fungus attack, preservative treatment, working qualities, supplies and uses has been incorporated. The volume, illustrated with 33 art plates containing 198 photomicrographs together with the detailed description, will be very helpful in the identification of timbers both in the field and in the laboratory.

Volume three and volume four will deal with 260 and 302 timber species respectively and will be on the same lines as volume one and two. Work on both these volumes is in progress.

TECHNICAL INFORMATION SECTION LIBRARY,

INDUSTRIAL ESTATE, GUINDY.

BOOKS RECENTLY RECEIVED

1. Metal Work Technology & Practice By Oswald A. Ludwig
2. Engineering Mechanics Statics „ H. L. Langhaar & A. P. Boresi
3. Machine Tools for Metal Cutting „ W. H. Armstrong
4. Applied Metallurgy for Engineers „ Malcolm S. Burton
5. Symbolic Logic & Intelligent Machines „ Edmund C. Berkely
6. Basic Lubrication Practice „ Allen F. Brewer
7. Shell Moulding & Shell Mold Castings „ T. C. Du Mond
8. Electroplating Engineering Handbook Edited by A. Kenneth Graham
9. Industrial Wastes : their disposal and treatment. Edited by Willem Rudolfs
10. Welding of Plastics By J. Alex Neumann & Frank J. Bockhoff
11. Automation in Production Engineering :
a Practical guide to automatic Pro-
duction and Guaging in Machine Shops. „ J. A. Oates
12. Casting & Forming Processes in Manufacturing. „ James S. Campbell
13. The Book of popular Science
Set of 10 Volumes
14. Encyclopeadia Britannica
Set of 24 Volumes
15. Standard American Encyclopeadia of Formulas. Edited by Albert A. Hopkins
16. Electrical Engineering Theory & Edited by Philip Kemp.
Practice Set of 3 Volumes.



PUBLIC NOTICE

Copy of / No. 1/1-1/IP/60 dated 25th August '60 from the Iron and Steel Controller, Government of India, Ministry of Steel, Mines & Fuel, (Department of Iron & Steel) Calcutta is reproduced below.

It has been observed that frequent requests are being made by the licence-holders for extension of the date of validity of their licences. The following procedure, which is generally followed by this office, may kindly be noted for guidance:—

- (i) The request for revalidation should reach this office within the period of validity of the licence (at least a fortnight before the expiry of the licence) accompanied by documentary evidence from the foreign suppliers to the effect that firm order has been placed and that supply of materials shipment of goods has been delayed due to unavoidable circumstances. The foreign supplier's letter/cable should indicate specific period of delivery.
- (ii) No request for revalidation will be entertained in cases where the letter of Credit has not been opened within a reasonable period, say two months from the date of receipt of the Import licence. Where opening of the letter of Credit is not a condition of the acceptance of order necessary documentary evidence to that effect should be produced from the foreign suppliers.
- (iii) Ordinarily licences will not be revalidated for more than three months at a time.

Licence-holders are requested not to make any request for revalidation unless they comply with the above provisions.

(Sd.) S. C. MUKHERJEE,
Deputy Iron and Steel Controller.

PRINTED AT THE
TECHNICAL INFORMATION SECTION,
INDUSTRIAL ESTATE, GUINDY, MADRAS-16.