

A MONTHLY SURVEY OF THE GRAPHIC ARTS INDUSTRIES



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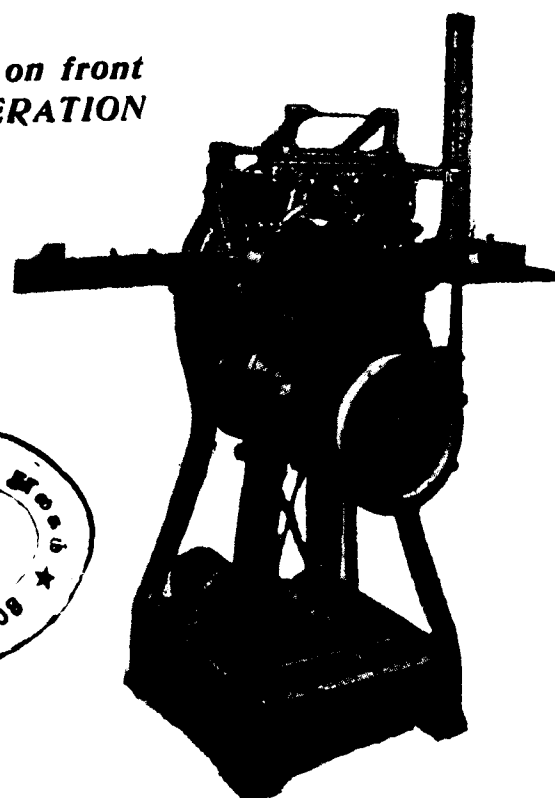
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Typography in Modern Printing

By
SRI K. C. RAMAN

Sri K. C. Raman of "The Times of India" emphasises the importance of Typography in modern printing in this interesting article

In India, as in Western countries, advertising has come to play an important part in the affairs of print, and the word "Typography" is more often heard in print shops today than ever before.

But it is rather unfortunate that quite a number of businessmen in this country still pay more attention to mere cheapness rather than to quality printing. They expect their salesmen to be well dressed and well groomed, but are not particular about their printed salesmen—the advertising materials they send. And these are more important than their personal salesmen, as they are seen by many more people. The people form their impression of the business chiefly from the advertising materials they receive. Hence the importance of good typography is paramount. The buyers of print also have a tendency to think of the printer as a mere contractor rather than an expert adviser in what is today an essential and important field of modern business activity.

After reading the admirable essay on the First Principles of Typography written by Mr. Stanly Morison, I would like to quote him as he is very clear on the definition of "Typography." "The craft of rightly disposing printing material in accordance with specific purpose: of so arranging the letters, distributing the space and controlling the type as to aid to the maximum the reader's comprehension of the text. Typography is the efficient means to an essentially utilitarian and only

accidentally aesthetic end, for enjoyment of patterns is rarely the reader's chief aim. Therefore, any disposition of printing material which, whatever the intention, has the effect of coming between author and reader is wrong."

ADVERTISEMENT LINE

Distinct from the typography of book printing, the typography of advertisements opens up many possibilities for originality in type setting. At the same time, one has to be aware of the many pitfalls it holds for the unwary. At one time in advertising, variety of type was thought to be the hall-mark of good display and the most important factor. legibility, took second place—if it was considered at all. Of course now we have discarded this style of setting, but do we always remember to be legible in our modern displays?

It should be borne in mind that the simple arrangement of legible types is two-thirds of good printing, and one can never be too particular about choosing a type that is legible. Regarding size, it is better to use large type if space permits. Possibly the best maximum for many advertisers would be—less copy, larger type and a good amount of white space.

It has been found that, provided the forms of the letters are those familiar to the eye habits of readers, legibility is a matter of (a) size (b) length of line (c) space between lines. These things have become common-places of type arrangement and are well understood by all who use type

correctly. Experienced printers know that a type size easily read in a short line becomes difficult to read if a line is disproportionately lengthened, and that a type face which strains the eye when set solid becomes more legible when correctly leaded. The first factor—size of type—is, however, the most important, yet this factor is much too frequently overlooked when planning for the average and particularly for the defective eye.

LEGIBLE TYPE

In using the smaller size of type, there is, of course, a certain length of line and a certain proportion of space between the lines which will make for example, 6 pt. as legible as it is possible for 6 pt. to be. Of course, this does not mean that 6 pt. or 8 pt., however well arranged, can be legible as 10 pt. or 12 pt. Consequently, legible type, sizable type is appreciated especially in advertising literature.

Perhaps the chief problem in advertising typography is to give proper emphasis to those points which make the sales message inviting to read, easy to understand and logical in presentation. There is no golden rule to help the printer choose the right type for any particular piece of printing. Certain selections are obvious, but with so many modern type faces available, there is no reason why he should ever select one that refuses to be legible. Readers should not be expected to twist their heads to every angle in their endeavour to

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read a piece of print. All efforts by the writer to put over his message are nullified when bad typography comes between writer and reader.

Quite a good deal has been written about choosing types to suit the product, and verily there is today an astonishing variety of type faces from which to choose. Cheltenham Bold, for example, is no more suitable for a Jeweller's advertisement than is Bernhard Roman for advertising heavy machinery. Of course, these are extreme examples, and the wide-awake printer will assuredly avoid them. Not so easy to avoid is the temptation to harmonise at the expense of legibility. When the temptation arises, it is better to put legibility first.

MAKING OF BOOKS

There is no doubt that advertising is the driving force behind typography, today, and has been responsible for a great many improvement in typography. Yet, advertising typography is seldom so distinguished or as fundamentally sound as book work. The reason is that bookwork has several hundred years of tradition. Throughout those years, the world's greatest artists and designers contributed their skill to the making of beautiful books. Consequently, the book typographer has a wealth of the best material to draw upon and, usually, plenty of time to do his work.

The little tricks and stunts with types that are sometimes permissible in advertising have no place at all in book work. In choosing type it should be borne in mind that the type should not be very black or very light in colour. If very black type face is chosen then it will not be possible to achieve easy reading as there will be a great contrast between type and paper. On the other hand, if it is very light the whole page will look pale. Of course, the way the type is set will also affect the colour value of a book type. For instance, if close spacing is used between words the effect will be denser and excessive spacing between words will lighten and thus weaken the colour value.

It is not wise to attempt choosing a type face until and unless the quality of paper is decided upon first as this has a very important bearing on the choice of type. In no circumstances will it be easy to read type on glossy coated paper as it would be if printed on an antique or rough finished paper. However, if glossy coated paper has to be used then a type face of a monotone in character should be selected. Even the colour of the paper should be taken into consideration as a pure white paper gives a great contrast of effect and a lighter type should be preferred than a paper of a brownish tint, which will stand a very black type. It is always safe

to use the classical type faces like Baskerville or Bell and the qualities to look for are crispness and clear effect.

SIZE OF TYPE

Now coming to the size of type, text of nearly all books should be set in type not smaller than 10 pt. or larger than 14 pt. When initial letters are used, they should be most carefully selected and inserted. They should be aligned in accordance with the correct procedure for initials when used in proximity with ordinary type.

In book work, the title page is considered to be the most important. It calls for great skill on the part of the typographer, and plenty of thought should be given to it. Bearing in mind the kind of work printed, the title page which appears to be most simple in design is generally the one on which the most trouble has been expended. At first sight it would seem to be very easy to arrange a few lines for effective display but in actual practice it is not at all easy. Dozens of ideas come into the head and they have to be sorted, compared, rejected in the mind, tried out on paper, sometimes tried out in type. Yes, in the full range of typography the title page will ever be an opportunity to show good craftsmanship.

(Courtesy: The Times of India.)

NEWSPRINT

We are reproducing hereunder some informative extracts from the report of the Press Commission regarding Newsprint. These extracts will be very enlightening to the Printers and Paper Merchants in this country

As we have already mentioned in Chapter I, the Government of India suggested that we might consider only those aspects of the supply of newsprint and machinery to the Press which could be conveniently examined as part of our general enquiry, and particularly the adequacy of newsprint and its distribution and the demand for composing and printing machinery and its likely future trends.

WORLD SUPPLIES AND CONSUMPTION OF NEWSPRINT

Newsprint is an essential raw material for the production of daily and weekly newspapers. Since newspapers have a short life, the paper on which they are printed need not possess either high quality or permanence. It must, however, be so cheap that it is economic to use even in editions selling in millions of copies daily. Newsprint is, therefore, made from the cheapest grade of pulp, consisting mainly of wood fibres ground up mechanically. An admixture of chemical pulp is made just sufficient to give the sheet the necessary strength to stand the strain of modern printing presses running at high speeds. Newsprint is composed of 75 to 85 per cent. of mechanical and 25 to 15 per cent. of unbleached sulphite pulp. Out of a total world production estimated at 10 million tons in 1952, Canada accounts for 54 per cent., the United States of America for 10 per cent., Scandinavia 10 per cent., United Kingdom 6 per cent., other Western European countries 13 per cent., Union of Soviet Socialist Republics 4 per cent. and the rest of the world for

only 3 per cent. In 1950, world exports of newsprint exceeded 5.5 million tons. But over three-fourths of this represented export from Canada to the United States, which, also imported nearly 1/5 of Scandinavian exports amounting to 725,000 tons. This left the rest of the world to share out the remaining 1.1 million tons of newsprint available for export. This works out to 80 lbs. per head of population in United States of America, whereas the people of India, Pakistan, Burma, China, Indonesia, and other Asian countries have had to be content with 1/4 lb. of newsprint per head.

The diversion to United States of America of the supply from Canada has focussed demand on Scandinavia, and thereby rendered newsprint from that source scarce and dear. At times the Scandinavian and North American newsprint markets form virtually water-tight compartments, with the Scandinavian producers enjoying a monopoly of exports to soft currency countries. The relative scarcity of Scandinavian newsprint is reflected in the high premium which it frequently commanded over the Canadian price.

Following the outbreak of the Korean war the prices of many commodities soared upwards without hindrance; but few of the commodities not directly required for defence rose to price peaks as pulp and pulp products, above all newsprint. In many countries, newsprint delivered on contract doubled in price, while the spot price as much as trebled. The

boom was aggravated by the speculative buying up of stocks by middle-men reselling to small consumers at high prices. The worst sufferers invariably were the countries like India not importing much newsprint, having no reservation contracts with the exporters, and dependent for supplies on the spot market.

One remedy is to improve the output of the existing manufacturing areas. Even in countries with a tradition in paper-making it takes nearly five years to bring a newsprint mill into production, and it may take longer in other countries. The long-term solution, seems, however, to lie in the establishment of industries in countries possessing the requisite natural resources for making newsprint, not necessarily from the usual raw materials but from local fibrous material of suitable quality.

NEWSPRINT DISTRIBUTION IN INDIA

India is entirely dependent for her supplies of newsprint on foreign countries. The principal supplying countries are Canada, Finland, Norway and Austria.

Before the War, India imported on an average 37,000 tons a year. This fell to 28,000 tons in 1941-42, and to as low as 14,000 tons in the following year. There was a gradual recovery in 1944-45 when imports rose to nearly 22,000 tons. The war stimulated the appetite for news, creating a larger demand for newspapers, and in consequence for newsprint. The present demand is estimated at 60,000 tons a year, and,

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C. P. G. Nair,
Manager.

according to the planning Commission's report, will amount up to 100,000 tons in 1960. Though our consumption of newsprint is not high in the world context, and is less than the annual quota of a large American daily newspaper, we are dependent on other countries for the supply and often find it difficult to procure even the relative small quantity of newsprint require.

MANUFACTURE OF NEWSPRINT

The possibility of manufacturing newsprint in India has been the subject of study by a number of experts. Since it is a low priced commodity, the successful manufacture of newsprint requires that raw material, water and power must be available in large quantities, at the factory, at very low cost. A number of trees that grow in India are quite suitable for the manufacture

of mechanical wood pulp. The most commonly used trees are coniferous like pine, spruce and fir. The Indian varieties yield quite satisfactory pulp and it is estimated that sources in the Himalayas can supply up to 180,000 tons of pulp timber annually. The difficulty however has been the transportation of the timber from the heights where they grow to the plains and transportation to a pulp mill. Methods developed recently in Holland for logging timber on mountain sites by the use of a cable are being studied and the Forest Research Institute authorities are understood to be planning the installation of a pilot installation for gaining experience of extraction under Himalayan conditions and training Indian workers in the method. It has been estimated that a factory located at Abdullapur or Pathankot in the Punjab would be able to utilise timber from the Himalayas. Until the method of

harvesting the timber has been satisfactorily worked out, there does not appear to be any possibility of a factory being established in this area.

Investigation has also been made of the suitability of pulp from other plants not generally used in other countries for making mechanical pulp. One of these is the paper mulberry, pulp from which was successfully used for making trial batches of newsprint. The tree, however, is not native to India and so is not available in Indian forests in quantities sufficient for industrial exploitation. Experiments have also been made with timber of the wattle which is being planted in Madras State for extraction of the bark which is used in tanning, and the results showed it to be a suitable source of chemical pulp for admixture with mechanical pulp for

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SCHOOL OF PRINTING

By
SRI K. G. KRISHNA RAO

While welcoming the Regional Schools of Printing, Sri Krishna Rao advocates that such schools should have laboratory and other facilities, so that research can be carried on in all aspects of Printing. The results of collective research can be made available to the Printers in India which will go a long way to establish a high standard of Printing.

Printers all over the country would have read with interest the news that on the recommendation of the All-India Council for Technical Education, regional schools of printing will be established in Madras, Bombay and Calcutta. This news will be welcomed by the public in general and the printing industry in particular. That such a step is taken with the concurrence of the representatives of the Industry is a welcome sign of the recognition of our status by the powers concerned.

Although occupying a high place in the industrial development and contributing a good deal to the economic prosperity of the country as the third largest industry, the printing industry has not progressed the way it should. Far from registering any step forward, the industry seems to be drifting gradually into a state of stagnation. Compared with the standard of printing in other countries, it cannot be disputed that printing in India is of a poor quality. No doubt, it is true that a few individual presses have shown remarkable progress in recent years, their printing comparing very favourably with the best standards obtaining elsewhere. But, the vast number of thousands of printers who constitute the bulk of the industry continue their profession, more as a primitive cottage industry than as a highly specialised industry of modern times.

A school of printing has been a long-felt need for the industry. The school will, no doubt, impart theoretical as well as practical instruction in every branch of the industry.

and thus prepare them to handle the intricate work of print. Apart from this, an important aspect, a scientific study of all our problems. It is an everyday experience of the common printer that he is not able to obtain the same result a second time with the same ink, rollers, papers etc. This means that we have no scientific data of the relation between paper, ink and all the other materials that go for print. With the vagaries of nature so common to our land, and the strange variations of climatic conditions, the problem of obtaining a basic standard of print baffle his imagination.

It is impossible for every individual press, however big it may be, or even groups of presses, to have a research section of their own. Such a facility is conspicuously absent for the printing industry in spite of its high status in the industrial field in India today. The school of printing to be established should be planned in such a way that laboratory and other facilities would be made available to talented students to conduct research in all aspects of the industry, to determine the basic standards, and to establish scientific relation between paper and all other materials for print. The results of collective research and experiment would be available to the common printer who has now to grope in the dark for such knowledge.

There is also another important aspect of the industry which has received scant attention. We have been crying hoarse about the dearth

of qualified mechanics in the industry. Especially with the advent of modern automatic machinery after the war, the problem has assumed serious proportions. We have still to depend to a large extent on foreign technical 'experts' for the erection and servicing of machinery. Foreign experts were allowed to be brought into the country on the distinctive understanding, that they trained Indian personnel within the given time. Nothing concrete seems to have been done to enforce this undertaking, with the result we are now where we were 5 years back. The position will be clear if only we understand that with the amount spent on every foreign "expert" brought here, we could send out for training at least six of our men. There is ample talent available in India, and it only needs to be fully exploited to the best advantage of the industry. Foreign technical co-operation should be welcomed, but not at the sacrifice of our own interests. The school must devote greater attention to this crying need of training our young men in the erection, operation and maintenance of all types of modern printing machinery and equipment.

It may be argued that this is too big a scheme for the present. But, once the basic policy is accepted, it should not be difficult to evolve, even as a long-term plan, all the above schemes into a well-planned training programme. Master Printers from all over the country will be meeting in conference in the next few months, and it is hoped

(Continued on page 24)

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PHOTOGRAVURE PRINTING

By

Mr. W. J. B. NOCKLES

The Photogravure process of printing is explained in this article in a way understandable by the layman. The author predicts a great future for photogravure printing in our country

In writing on the subject of photogravure printing it is perhaps necessary to define what exactly is meant by 'Photogravure'. It may be described as a photo-mechanical method of itaglio etching on copper plates or cylinders from which impressions on paper and a wide variety of other materials may be taken.

The idea of 'itaglio' printing may be visualised by picturing a smooth copper plate in which a series of cells or recesses have been formed below the surface. Printing ink is applied to the plate and wiped off the surface but left in the recesses from whence it is impressed on-to paper. These recesses, which are shaped by the gravure screen, are of uniform size but of varying depth, the depth of each cell being regulated to the strength of tone required; thus in the printed impression each tone is represented by a different thickness of ink, and it is worthy of note that the gravure screen etched below the copper surface has an ink holding capacity far in excess of any other process screen giving rise to what is called the "gravure effect."

This term implies a reproduction with rich tonal values ranging from delicate almost brilliant highlights to darker shades and rich satiny solids superior to results by any other process. Another important factor is the continuous tone effect of gravure printing; this results from the screen line separating the cells recording not as a white but as a transparent tone of the colour printed. This obviates any reflected white from the paper which might degrade the colour value.

OLD METHOD

In this connection, it may be remembered that as black and white will produce grey so is this influence with colour work; white light reflected from the spaces between the dots of relief printing for example, will deprive the colour of its brilliance and by each subsequent colour working the grey effect is intensified. It may also be stated that as the tonal values in photogravure are regulated by the varying depths of the cells which carry more or less colour according to their gradation, the ink can be more transparent than in other processes, allowing some access of light from above which results in the long range of tones peculiar to gravure from the lightest greys to the luxuriant satiny solids.

In the early days, when gravure was a struggling but lusty infant, the etched copper plates were inked and wiped by hand; so far as the record shows the process had its beginnings around the eighteen fifties, but it is definitely established that the modifications to the process introduced by Karl Klic at the turn of the century firmly established the basic principles of modern gravure printing. Not the least of his innovations was the introduction of the mechanical wiping of the plate or cylinder. This to my mind was the corner stone which has made possible the designing of the giant multi-colour gravure presses of today. Now, 100 years after the first experiments of Fox Talbot, Carl Klic and Sir Joseph Swan, photogravure can truly be said to have come into its own.

The reading public today demands colour and yet more colour illustrations; advertisers, too, are determined to exploit the pulling power of colour to the fullest extent. What other process can print at speeds up to 40,000 copies per hour and produce the rich satisfying monotone printing liberally interspersed with colour pictures faithfully reproduced by *combining four colours only*! This is an achievement which has been made possible by the close cooperation between printing machine designers, photo-engravers and ink and paper manufacturers, an achievement which is visibly evidenced on our book stalls every day.

Photogravure or 'Rotogravure', as it is called when referring to continuous web printing, has today a number of variations on what is known as 'conventional gravure'. To mention but a few there are the Dultgen, Henderson Huebner, Kubeserain, Davers, Falconer. Estler processes; each of these variations attempts to eliminate the element of human fallibility with varying degrees of success. It may be noted in this connection that the two Dultgen patents are enjoying a wide degree of popularity in the U. S. However, it is still true to say that, together with all other printing processes, photogravure has still room for new ideas and new techniques.

With the photogravure process acknowledged as the leading method of producing fine magazine printing, it is easy to lose sight of the fact that gravure has also a wide appli-

cation in the field of commercial and fine art printing. Automatic stream-fed sheet machines designed for either copper plates or cylinders are turning out a staggering variety of work. The positive impression and accurate registering devices of these fast running machines, together with gravure's inherent asset of printing on almost any stock from plastics to board, gives the printer and printbuyer tremendous flexibility of choice.

While each of the major printing processes has its own specific application to a special field, gravure can be said to have its boundaries far more widely flung than those of the planographic or relief methods and, while perhaps there can be no final comparison between the processes it can be safely said that gravure printing speeds far exceed the most modern letterpress machine; and

that a single working in gravure is equal in tone value to two workings in offset. Moreover, the variety of rich tones obtainable by a complementary two colour gravure working can be secured only by at least four or five offset workings. Further, it may be said that rarely does gravure need a fourth final tint working for the most vigorous colouring, a working which the dot colour process cannot dispense with to secure depth of colour.

HEAVY GRADE STOCK

The outstanding quality of gravure over the other processes is the rich continuous tone result which is obtainable on virtually any stock from beautiful matt, while heavy grade stock to the cheapest newsprint, not to mention its ability to print on a wide range of plastics and wrapping material.

In conclusion, it is interesting to note that protogravure printing is on the increase in India; during the last twelve months or so a number of companies have installed or ordered photogravure machines not all of them are making their own plates or cylinders as yet, but doubtless in due time they will become completely self-sufficient on the photo mechanical side also. The wide application of gravure with its flexibility and its rich and pleasing effect has, I firmly believe, a great future in India.

The rate of its progress will depend largely on the growth of an efficient and skilled labour force and the wise application of its techniques by printers and print buyers. This progress, I am sure, will be watched with great interest by printers all over the world.

(Courtesy: The Times of India.)

I P E X

International Printing Machinery & Allied Trades Exhibition

at Olympia, London, July 5-16, 1955

The I P E X is one of the most important Exhibitions organised by the British Manufacturers of Printers' Machinery. We have pleasure to present here some advance information regarding this Exhibition which is being held at Olympia, London, during the course of July 1955.

Organized by the Association of British Manufacturers of Printers' Machinery, IPEX will attract buyers and technicians in their thousands from all over the globe, and the lessons learnt there will affect every man, woman and child in the civilized world.

Machines at Work: for this occasion Olympia will become the world's biggest and most varied printing works, as throughout the run of the Exhibition machines will be kept at work demonstrating their capabilities.

The Exhibition will be international in scope and competitive in the best sense of the word.

There will be heavy letterpress rotaries turning out facsimile newspapers; litho and gravure machines like highly-developed robots, demonstrating magazine and periodical production; and small flat-beds and duplicators showing their paces in the production of commercial literature of all grades.

In addition there will be the thousand-and-one other mechanical, electrical and material aids to the practical task of print production. Many new papers, inks, type-faces, blankets, rollers and so on will be seen for the first time, and labour-saving devices of many kinds introduced to the trade.

For in the 19 years since the last International Exhibition in London,

scientific research has contributed much to production technique.

Photo-Typesetting: The most striking—one might almost use the word sensational—advance is probably to be found in photo-typesetting.

Lithography and gravure have hitherto been handicapped by the time factor between the setting of the type and the production of the printing surface. This has involved typesetting, correction, art proofing, photographing, and processing.

The first logical advance was in proofing direct on to transparent plastic sheets, so cutting out the first photographic process.

But it was soon realized that an even shorter cut was scientifically possible, and the manufacturers of typesetting machines have been working steadily in this direction.

Basic Principles: At least four different fundamental principles have been invoked to this end, and for the first time a full range of commercially-available photo-composing machines will be on view as working exhibits under the one roof at Olympia, so that litho and gravure printers will be able to examine and compare the results obtained.

These machines achieve the desired result—the setting of type characters in one operation direct on to sensitized paper or film—by optical or electronic means.

The ink "spread" of letterpress impression is eliminated, and the resulting type-reproduction is cleaner and thinner so that new type faces are being designed to meet the new technique.

Electronic Etching: At the same time an important new approach has been made to the more rapid and economic production of engraved line and half-tone plates for the reproduction of illustrations by letterpress.

Electro-mechanical etching has arrived to compete with the established photo-chemical process, and here again examples of the commercially-available machines will be seen working at IPEX for appraisal by the trade.

Automatic Accuracy: It was perhaps inevitable that the light-sensitive electric cell (the magic eye) and the probing principles of radar—both essentially British inventions—should be harnessed to the automatic control of printing and box making machinery.

The ingenuity with which these principles have been applied—from the automatic micrometer control of register to the accurate step-and-repeat negative printers for such multiple printing jobs as sheets of postage stamps and so on—will be demonstrated at IPEX.

At this juncture, of course, many important developments are being

(Continued on page 27)

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can provide all the solid setting, display type and spacing material, etc., that your composing room needs - *and at minimum cost**

A 'MONOTYPE' KEYBOARD

requires only a simple and rapid change of equipment for an operator to compose text matter in any European language—or any of the Indian languages listed at left below.

A 'MONOTYPE' COMPOSITION CASTER

will automatically cast and deliver perfectly-spaced lines of new, solid single type to measures as wide as 60 ems pica. It can be fitted, if required, with attachments for casting Display to 36 pt.; also leads and rules to 12 pt.

Hindi, Marathi, Kashmiri, Sanskrit [also Nepalese], Bengali and Assamese, Gujarathi, Urdu, Tamil and Telugu [also Burmese] can all be set with ease and at speed on 'Monotype' machines.

A 'MONOTYPE' SUPER CASTER

will provide type up to 72 pt.; leads and rules from 1 to 18 pt.; single-unit and strip borders; dashes; quotations (*wooden-cored if required*) and block-mounting material; two-piece, type-high foundry furniture in continuous or in fixed lengths, etc., etc.

A 'MONOTYPE' THOMPSON TYPECASTER

will cast type from 6 to 18pt. from 'Monotype' matrices: a wide range of famous type faces, including eastern scripts, is available. Types produced from these matrices require no further operations on them as they are cast to a standard height.

*Roman Type Faces are available on 'Monotype' machines in an unrivalled range of matchless designs.

Display matrices of many of them may be hired.

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THE MONOTYPE CORPORATION LIMITED
SALFORDS, REDHILL, SURREY

Regd. Office: 55-56 Lincolns Inn Fields, London, W.C.2, England

From Our London Correspondent

F. A. D. BROWNIE

In the printing industry, particularly in connection with lithography and colour printing, and for paper storage, the moisture content of the paper and the atmosphere, and the relation between these two factors, are of considerable importance in securing high quality work and avoiding spoilage.

The Cambridge indicator is specially designed for use in this connection, and was developed in consultation with a lithographic technical organisation. It is a small, portable, and self-contained instrument which operates as a differential indicator to show the difference in terms of relative humidity between the atmosphere of the press room and the paper stock. The sensitive element is encased within a perforated hollow blade projecting from a small indicator which forms a convenient handle. The changes in length of the sensitive element due to humidity changes are communicated to the indicator pointer which moves over a scale graduated 20-0-20% relative humidity, with a special graduation at 8%.

When using the instrument the blade containing the sensitive element is first exposed to the air in the press room for about three minutes, and the pointer set to the zero of the scale by means of a knurled knob provided on the case. This "Zero" reading thus represents the moisture of the air. The blade is then inserted between the sheets of paper to a depth sufficient to cover the perforations, thus exposing the sensitive element to the moisture of the paper. When

the pointer ceases to move (in approximately three minutes) the reading on the scale represents the difference in relative humidity, between the press room atmosphere and the paper.

Another development in the field of paper testing is represented by the new C. N. S. extensometer, which measures the extension and contraction of paper under varying conditions of controlled humidity. The instrument consists of a humidifier and a measuring head, both contained in a neat cabinet, the measuring head being removed from the cabinet when the instrument is operated. A drying and a wetting tower in the humidifier each have outlets feeding into a common supply tube to the measuring head. A steady current of air at any required R.H. from below 10-95% is produced in the humidifier and passed into the measuring head, in which the test piece is suspended, and a delicate sensing mechanism with signal light and an adjustable gauge reads the initial length. After obtaining stability of the test piece at the desired humidity limit, a reading of the dial gauge is taken, and, when stability has been obtained at the other humidity limit, the difference of readings will give the extent of movement of the test piece, the accuracy claimed being less than half-a-thousandth of an inch.

An interesting booklet, by J. H. Crossley, entitled "Precision in Letterpress Printing", describes the equipment manufactured by Pre-Press Ltd. of London, which has been specially designed with the

object of reducing the standing time of printing machines, one of the most important factors in the High cost of print.

A typical example of their many products is the Pre-Press Vandercook block leveller, which is designed to cut on the rotary cutter principle, metal, plastics, wood etc., to an accuracy of 0.0005", and is especially suitable for planing a mounting medium which consists of a combination of wood and metal laminated together. The machine will precision plane an area of 15" x 20" in seven seconds, and it is possible to make up formes as large as 60" x 40" in sections, registering, precision-mounting and proofing each section as a unit and assembling the whole in a machine bed with a vast reduction in machine standing time.

Further, a saving in machine running times is made because of the stability of the mount, which eliminates slurring, filling-in and other difficulties experienced when a highly compressible board, not in uniform contact with the bed of the machine, is used. It is not suggested that the laminated mount is a

(Continued on page 16)

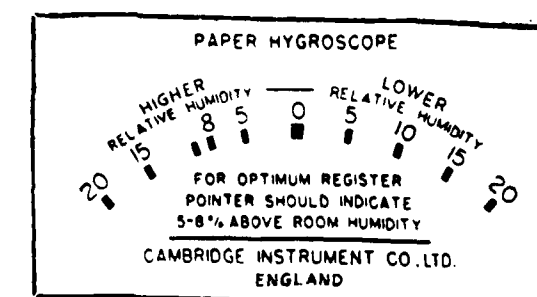
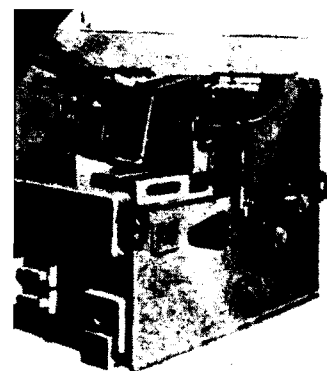
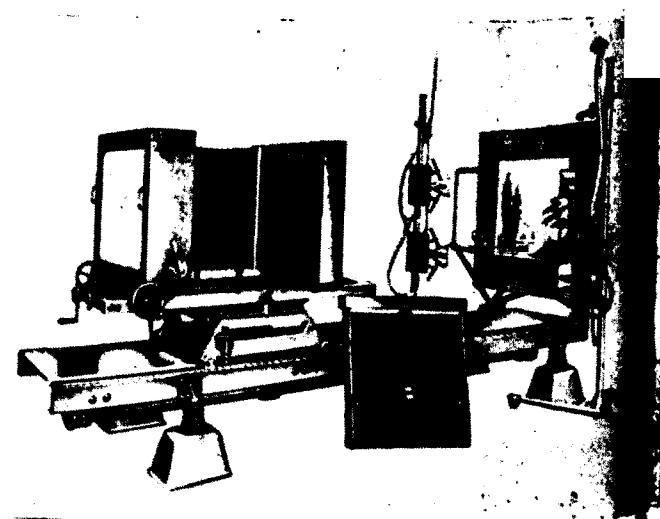


Fig. 2



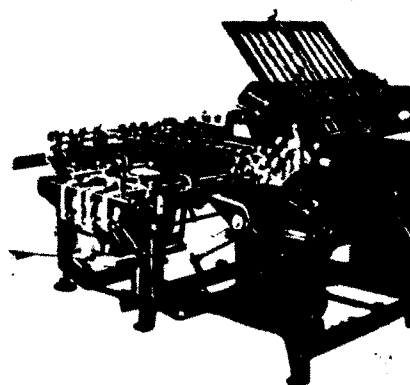
Cylinder Press MO
Output 5000 sheets h
Printing size : 12,4 X 16,8 inch.



Model record I, Process Camera
size 500 X 500 mms
size of drawing board 900 X 1200 mms
metal spring stand length 3750 mms
camera base length 1500 mms
optica : Zeiss-Apo-Tessar 1:9 f = 450 mm
Prim 70 mms



Perfecta Rapid
Three Knife Trimmer
Model ADN



Folding Machine record Nr. 158
for smaller and middle paper sizes



Since more than 120 years Germany is well known by the development and construction of paper and print.

The machines manufactured in the factories of the Saxon industrial districts, such as Planeta, Perfecta, Victoria, Falz- und Heftmaschinenwerk (formerly Gebr. Brehmer) etc. are exported to all countries in the world.

At the "All INDIA PRINTERS CONFERENCE & EXHIBITION" in Madras you will have a chance to see a large number of these highly qualified machines that will certainly meet with your approval. Please visit us in Madras and convince yourself of the efficiency of graphic branch in the German Democratic Republic.

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From Our London Correspondent

(Continued from page 13)

perfect substitute for the many types of proprietary-made solid metal bases which are on the market to-day, but there is no comparison in initial cost of these two types of mounts due to the fact that the base described is made by the printer from stereo metal, which can be recovered when the life of the mount is ended. Many such mounts are in use to-day for catalogue and fine colour work, giving a life of many months before being returned to the melting pot.

This type of mount is very suitable where several plates are mounted in a relatively small area. The plates are fixed by nailing into the wooden sections of the mount, thus avoiding the use of clips, which are an expensive item of equipment, and eliminating the use of a sizing and bevelling machine. Slabs of metal, which have been cast to suit either original or duplicate plates, are planed both sides, 0.010" above the thickness finally required. These are then cut into twelve points em sizes to suit the particular plates they have to carry, and at this stage considerable assistance is given to the compositor.

Interesting also are the make-up gauge for registering plates on mounts, and the composing make-up gauge for page make up. The principle of both gauges is the same, the only difference being in their construction. The make-up gauge has two open sides to facilitate the entry and extraction of mounts into the accurately squared corners of the gauge at the left and bottom edges, while the composing make-up gauge has a frame all round with a detachable bar at the head, which can be removed when

a page has been set up and is ready to be transferred to a galley prior to proofing.

On both gauges there are three visors, one squared, one transparent, and one translucent. The method of ascertaining the position of the key colour is by placing the translucent visor over the layout or copy with the matt side of the visor facing upwards and tracing the position of the various elements with a pencil. The tracing is positive, so the visor is turned over and located with the thumb screws on the hinged bracket, thus changing the pencil image from positive to negative. With this guide, plates may be laid down, or pages made up, exactly to the copy, eliminating the traditional trial and error practices used in many printing establishments.



Cambridge Humidity Indicator

Other aspects of letterpress printing catered for are type measurement and control, precision proofing, forme storage and transportation, and cylinder dressings and machine settings.

An ingenious development in the marking and labelling of jars, bottles, tubes and other containers is represented by the invention of an Austrian pharmacist, Siegfried Edels, who left his country during the Nazi regime and is now head of a British Company, Rejafix Ltd. Their products include marking and printing machines ranging from small hand-operated units suitable for the individual pharmacist, to large fully automatic machines for mass-production line output, with a marking rate of upto 7,000 articles an hour. Specialised inks in various colours have also been produced in the firm's laboratories for giving clear and lasting markings on porcelain jars, glass ampoules or bottles, plastic or wood containers and any form of packaging material.

The shape of the articles makes no difference to efficient marking or printing, and print or design is taken off a resilient rubber pad upon which an inked impression of the type or block is automatically transferred. The rubber, being flexible, takes up any irregularity of shape and enables an identical impression to be imprinted.

Some Brief Notes on Paper for Printers--The Tear Test, appear in a recent issue of "The Jobbing Printer." Tearing half the sheet quickly is of little value, and the tearing should be quiet and gentle, as this is the only way of noting the resistance and therefore the comparative strength of the sheet. Also this operation should be carried out both ways of the sheet immediately to note any difference in resistance, or strength, either way.

(Continued on page 22)

PRINTING MACHINES

We present to the readers here, some extracts from the Press Commissions' report relating to Printing and Composing Machinery used in our Country.

COMPOSING MACHINERY

In a large number of newspaper presses the matter to be printed is set up in type by machines instead of by hand. The use of such typesetting machines offers certain advantages. It is possible to set up type much faster by machines than by hand. The type thus set up is cast afresh by the machines for each occasion of use, and so the characters are always well-formed and without any broken types. A newspaper whose typesetting is done by machine is, therefore, able to present later news and also to produce a well-printed page which is easy to read. Typesetting machines may be divided into two major categories, in one of which a whole line of type is cast in one piece for the full width of the column, while in the other the types are cast separately but along with spaces wide enough to make up the full width of the column so that they have only to be assembled, line by line. Three makes of machines are at present sold in the market: two of the line-casting type and one of the type that casts single characters. The former has certain limitations on the number of different characters that can be operated from the keyboard. The maximum which is 90 characters in some machines and 124 characters in other models is quite adequate for setting type in English where the number of characters is smaller, but presents certain difficulties in the case of Indian scripts which have so far been using a very much larger number of characters. The machines that cast type singly are able to provide a much larger number of characters, 225 in the old models and 225 in the latest models. They

have therefore been more popular with the Indian language papers even though their speed of operation is not as high. Attempts have been made to bring the total number of characters normally used in Indian scripts, within the capacity of the line-casting machines. In the case of Bengali characters the process has been so successful that pages set up by the machine are accepted as standard. In the case of Tamil, the attempt has not succeeded to the same extent and in Hindi the machine is finding only gradual acceptance. Typesetting machines casting single types are available for Devanagari, Urdu, Bengali, Gujarati, Tamil and Telugu.

These typesetting machines have been evolved and perfected over a long period, and are complicated mechanisms which call for skill and specialised knowledge for their manufacture. Many of the component parts need to be made to a high degree of accuracy, and in some cases the tolerances permitted are no more than one-tenth of an inch. We were told that there are only three firms manufacturing such machines, who have factories in the United Kingdom and in the United States and that in spite of the very large number of advanced countries in Western Europe which use the same characters as in the English-speaking countries, it has not been found worthwhile to establish any more factories on the Continent of Europe. India's consumption of mechanical typesetting machines is estimated at 50 per year, which is said to represent only about 1 per cent. of the total output of the three companies. The manufacturers would, therefore, not be interested

in setting up a plant in India for such limited demand. We understand that manufacturing plants in this country are not at present equipped with machinery for such high precision work and that therefore it would be difficult to undertake the manufacture of these machines even in collaboration with one of these three firms. The major difficulty in undertaking manufacture is the very small number of machines that would be needed. This applies with equal force to the manufacture of spare parts, though at present it is possible to undertake the manufacture of small parts and the simpler accessories. Actually, at present spare parts such as rubber rollers, fibre-pinions, and carbon brushes are being manufactured locally for one make of line-casting machines. The importers of another make of machines told us that their imports and sales of spare parts has ranged in value between 4½ lakhs and 8 lakhs per year during the last five years. It will be seen that the volume of imports of spare parts is by no means very heavy and their manufacture indigenously may not be justified as a sound economic proposition.

Machines for use in the Indian scripts are practically identical with machines for other scripts. In the case of line-casting machines, however, it is essential to use, for Indian scripts, machines which are fitted with auxiliary magazines accommodating 34 additional characters in order to cover all the characters in normal use. Hence in the case of Indian scripts, line-casting machines of the more complicated type with a side magazine have to

be used instead of the simpler machines which handle only 90 characters. In the case of all machines, whether casting in line or in single characters the major difference is in the matrices which cast the type. This represents only a small part of the total cost of the machines and even though such matrices for Indian scripts have no sale outside this country, the makers have not found it practicable to undertake their manufacture in India straightaway owing to the lack of the precision machinery required. This however is a matter for further investigation. If it is possible for committees to be set up to consider dispassionately the methods by which these scripts could be simplified and the number of characters reduced to a reasonable figure, the possibility would exist of Government being able to insist that the copyright of the scripts should be made available to the manufacturers of typesetting machines only on condition that the matrices are manufactured in the country.

PRINTING MACHINES

The majority of the printing machines in use in this country can be divided into three major categories according to the method used for taking an impression of the type on the paper. In the first, known as the platen press, the type is set on a flat surface and the paper is also kept flat when an impression is taken. In the second, known as the flat bed machine, the page of type is still in the form of a flat surface but the paper is wound round a cylinder which rolls over the type; hence this is known also as a cylinder machine. In the third category, called the rotary press the type is cast in the form of a cylindrical plate, while the paper is also wound round cylinders, the two revolving in contact to produce the impression. The first

category is not capable of producing a large number of impressions per hour, particularly when sheets are fed by hand, and the size of the page is also limited. So these machines are not used for the printing of newspapers generally though there appear to be some small weeklies in Indian languages which are produced on these. The bulk of the production of weeklies and of many of the smaller dailies is carried out on the flat bed or cylinder machines. Almost all the large dailies and a number of weeklies of large circulation are produced on rotary presses.

IMPORTS FROM ABROAD

No statistics are available of India's requirements of any of these categories of machines. Both for the purpose of import licensing and for maintenance of customs statistics many varieties of machines are grouped together along with accessories, spare parts and ancillary machines.

MANUFACTURE OF PRINTING MACHINES

Manufacture in this country is confined mainly to the first type of platen machines. Though Indian production was fairly large at the end of the war and there was a considerable amount of pent-up war time demand to be filled, production appears to have fallen off recently. We have heard some complaints also from witnesses who appeared before us, of the poor quality of these machines. We understand that import of such machines has been restricted to 25 per cent. of the previous figures in order to encourage Indian manufacture. No attempt seems, however, to have been made to carry out tests of the machines produced here and collect the opinions of users who have had experience of these machines for a

number of years. Printing machines are expensive and are normally kept in use over a very long period of years. If the quality is defective, the printers are placed under a serious disability; they may not be able to get rid of their defective machine and go in for another but might have to continue to produce unsatisfactory work or in the alternative, close down. In the circumstances we consider it very necessary that the department of Government responsible for developing the production of industrial machinery in this country should make arrangements for evaluation of their quality. Production of flat bed or cylinder machines appears to be confined to two manufacturers in Calcutta. We understand that proposals were placed before the Government for the establishment of a third factory at Delhi, but no progress seems to have been achieved so far. Here too, Indian production is very small and the quality has not found wide approval. These machines are used not merely for the production of small newspapers and journals but also for job-work. It is necessary that the quality of work that they turn out should be comparable with that produced on imported machines. The essential factors are use of good material and precision methods of manufacture. We are anxious that Indian production should be encouraged so as to make the country independent of imports. This encouragement should, however, be backed up by a service of testing, and manufacturers should also be induced to accept methods of quality control so that their products can be purchased with confidence.

ROTARY PRESSES

Rotary presses are generally heavy machines which represent a consi-

(Continued on page 22)



The name of M s. Klein & Peyerl, block makers of Madras City is very well-known. A strange freak of destiny brought Mr. John as an apprentice into the above firm in the year 1933. Mr. John who graduated from the Loyola College with mathematics honours strangely chose the post of an apprentice in a block making establishment but as he continued his apprenticeship his interest in the art of process block making has developed so much that he has taken inordinate pains to master the subject from A to Z.

Mr. John became a very important force in the development of M s. Klein & Peyerl and in the year 1934 he was taken in as a partner of the establishment. As the years rolled by, due to political and other changes affecting the business interests all over the world, Mr. John has become the sole proprietor of M s. Klein & Peyerl. In the year 1939 with Mr. John at the helm of affairs, M s. Klein and Peyerl has risen to the pinnacle of fame and the reputation they have for making black and white as well as colour blocks is almost proverbial.

Mr. John takes an active interest in the welfare of his staff and workers. He has evolved his own methods of looking after their

welfare. It may be mentioned here that as directed by Mr. John



Mr. V. John

the staff of M s. Klein & Peyerl not only receive their salaries with dearness allowance but 10% of the total turnover is calculated every month and is distributed proportionately amongst the staff. Besides, the workers of the Company enjoy ample facilities by way of provident fund, insurance and medical aid. As a climax of these interesting facilities mentioned above, the staffmembers are also served a cup of hot coffee on every working day.

M s. Klein & Peyerl is equipped with the latest machinery and the firm is very fortunate in having the services of a team of skilled workers. Under the guidance of Mr. John all the workers fulfil their duties with activity and alertness and to a large extent there prevails a feeling among the workers with their partner in the venture which enables them to express the best in them in their work.

Mr. John, a Syrian Christian who is always buoyant and cheerful is always active. Throughout the day he will be participating in the work alongside the workers and that goes a long way in establishing a strong morale in the firm.

Please refer to

PRINTINDIA

while writing to advertisers

Newsprint

(Continued from page 6)

newsprint manufacture. Similarly, bagasse which is a waste product of the sugar industry and is being burnt under boilers for raising steam in sugar mills can be converted into chemical pulp of good quality. Mills established in other countries are already turning out paper from bagasse pulp, and one Indian mill is already using bagasse as a raw material for manufacture of paper and boards. Chemical pulp from these sources, or from others like bamboo and *eta* reeds already in use, could be used along with mechanical pulp made from cheaper raw materials, but the difficulty has been to locate a suitable supplies of raw materials, for mechanical pulp. Of the sources mentioned earlier, spruce and fir though available in large quantities in the Himalayan ranges, offer difficulties in extraction of the timber, while paper mulberry and wattle which can be grown in other areas have to be planted hereafter on a very large scale before supplies could be available in the quantities required. Certain processes have, however, been worked out by which bagasse can be converted directly into newsprint. According to estimates based on the quantity of sugar produced by the centrifugal process in this country, the total amount of bagasse available, estimated at dry weight, would be 1½ million tons. To this may be added the quantity of bagasse left over from the production of gur. Less than two tons of dry bagasse are needed for manufacturing one ton of newsprint. It will therefore be possible with the quantity of bagasse available in this country to manufacture all the newsprint that can be currently consumed. Before bagasse can be released

for use as a fibrous material, it will be necessary to convert boilers in Indian sugar mills to burn coal instead. Further, bagasse would be available only at a price equivalent to the value of the coal to replace it. Indian coal is however quite reasonably priced and one or two sugar mills have already started the manufacture of paper and pulp boards from bagasse, after converting their boilers to burn coal. If a drive is undertaken for large scale conversion of the steam boilers, it should be possible to release the required quantity of bagasse for use as a source of cellulose. While India has adequate supplies of fuel at low price, it is very short of fibrous material generally and is at present importing cellulose fibre in various forms such as pulp for rayon manufacture, as readymade newsprint, and as superior grades of paper. Release of bagasse to serve as a raw material for one or more of these products by replacing it with coal as a fuel would, therefore, be in the over-all national interest. We understand that the Government of India have already approached manufacturers of chemical plants in the West to draw up blueprints for chemical plants for converting bagasse into one or the other of these three products. American experiments would appear to indicate that newsprint from bagasse not involving the use of chemical pulp from any other raw material, would yield a product comparable with newsprint made from timber, at a price which is not very much higher. It must be remembered in this connection that the United States of America has extensive areas under forest which can be readily harvested, while India suffers from a lack for such resources. Utilisation of bagasse on a large scale in place of timber for newsprint as well as for other products would overcome our shortage of cellulose material.

THE NEPA MILLS

In 1947 a company was floated in Bombay for the manufacture of paper from raw materials available in Madhya Pradesh. Later the promoters decided to go in for the manufacture of newsprint. The factory is located near Chandni in Madhya Pradesh and the Government of Madhya Pradesh are deeply interested in the scheme. They have contributed a large amount of capital and have also erected a power station near the mill for the supply of electricity. A dam has also been put up across the Tapti river and pumps and pipe lines laid for the supply of water to the mill. The mill has planned to use a local wood called 'salai' for the manufacture of mechanical pulp. Tests carried out by Research Institute are reported to indicate that salai is suitable for this purpose and the company also plans to use another tree 'maharukh' which, it is expected could be grown in the vicinity of the mills to provide the necessary flow of raw material. Mechanical wood pulp is expected to be in production in the course of this year, and with the completion of the mill for the production of chemical pulp for admixture, early in 1955, the company expects to start the paper mill for the manufacture of newsprint in the course of that year. Doubts have been expressed regarding the economic soundness of the venture. It is undoubtedly a fact that the original promoters did not have any clear idea of the capital requirements or of the cost of production. Owing to lack of expert knowledge and other causes, there has perhaps been some expenditure in the construction of the Mills which could have been avoided. This would add to the cost of the newsprint when it is placed on the market. Some difficulties in the supply of timber or at least in the

(Continued on page 24)



Mr. Lakshmiprasad Shah and Mr. Jiccles of Delta Metal Refineries Ltd., Madras were convicted and sentenced by Sri H. V. Hariharalyer, Special Judge, Chingleput for offering a bribe to a Government Officer.

It was alleged by the prosecution that the above two accused offered a bribe of Rs. 2,000/- to Sri S. Krishnan, Deputy Superintendent of Government Press, Madras, for accepting their tender for supplying metal to the Government Press.

The Special Judge, after hearing the arguments, convicted both the accused and sentenced them to pay fines of Rs. 500 - and Rs. 250/- respectively and in default to pay, to undergo 3 months R. I. for each of the offences. (Criminal conspiracy and abetment of offences.)

IMPROVEMENTS ON STEREO MATRICES

To improve the quality of Stereo Matrices, a proposal is afoot by way of repeating the impressing of the flong; after the first or ordinary impression; the blankets are removed and a hard board backing substituted, the impression is then repeated. This improves the sharpness of the matrix, but must be done immediately and quickly, to prevent shifting which would cause blurring. The method is not suitable for multi-colour work because of the difficulty of registration.

There is another trouble of the saws or cutters becoming blunted very rapidly in sawing or back-milling the stereo plates of Plastic material.

A very simple device to eliminate this trouble has been found by The Netherlands State printing office at the Hague. Here, the teeth are removed from the blade or cutter, which will then be found capable of cutting such harder materials without the least trouble. On top of it, no burn will be formed and the cut surfaces will get a high polish.

EDINBURGH DESIGN IN PRINT CONFERENCE AND EXHIBITION

'Design in Print' Exhibition organised by the Edinburgh College of Art was shown upto Friday the 16th November 1954. The work of 12 countries, including Britain was also shown and British section material from nine printing firms was displayed. This Exhibition gave a very good opportunity for Scots printers and students to be in touch with cotemporary trends.

A Conference on Design in the printing Industry was also held on 12th November '54 in the College. Dr. G. W. OVINK, art director, Amsterdam Type Foundry spoke on Typography, Means of Thought Communication, or Method of Self-Expressions. Charles Rosner, co-

editor, Graphis Annual, and art director, Balding and Mansell also spoke on 'The Changing Face of Advertising Art', Charles Pickering H. M. Inspector, Ministry of Education on 'Typography and the Graphic Arts' and Kingsley Cook, Head of the Colleges Typography Department on 'The Andrew Grant Scholarships for Printing Trade Apprentices.'

The Edinburgh Press gave a tremendous publicity to this Conference and hailed a great success.

OBITUARY

We are extremely grieved to record the tragic end of Sri A. K. Guha, Superintendent of the West Bengal Government Press, due to a fall from the third floor of the press building in Alipore on October 18th. He was removed to the Presidency General Hospital, where he died shortly after admission.

For Prompt & Quality Result

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HALFTONE, LINEBLOCKS
RUBBER STAMP MAKERS
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Printing Machines

(Continued from page 18)

derable amount of capital investment but which in turn can produce a very large number of copies in a short space of time and also produce continuously uniform work. These machines are made in various sizes to suit the requirements of large and small papers. All the machines in use in this country have been imported, from Germany, United Kingdom or United States of America. It is estimated that there are about 100 rotary presses in use in this country of different sizes and we do not anticipate that annual demand for replacement, and for installation in those papers which want to change over from flat bed printing to rotary printing, would exceed half a dozen machines a year. It would obviously not be economical for an Indian manufacturer to start on the design of such a machine solely in order to meet the Indian demand. We suggested to the Ministry of Commerce and Industry that they should ascertain whether Indian manufacture of heavy machinery would be interested in undertaking the production of suitable machines. In reply to their circular letter, five out of six manufacturers failed to show any interest. The sixth realised that such a venture would need the co-operation of an existing manufacturer abroad whose designs and blue-prints could be used for the local construction of the machine. He is reported to have attempted to secure such co-operation but has not succeeded. We consider it useful if the work of bringing together Indian manufacturers and foreign firms is undertaken by Government after a study of the requirements and the evolution of a standard design of 8-page capacity. Machines of this size are offered abroad for about Rs. 2½ lakhs exclusive of foundry

equipment. We feel that if such a standard design is developed, even large newspapers could be persuaded to purchase several units of this size to replace their large machines when replacement falls due. We consider whether the purchase of such machines would be economical even in cases where large machines of imported construction are at present being used. We requested the experts of the Ministry of Works, Housing and Industries to work out the comparative cost of production on the two types of machines. According to their calculations, which tally also with the working costs of many newspapers in this country, it would be more economical where the circulation is 10,000 copies or more, to install a rotary press costing about Rs. 2½ lakhs instead of flat bed machines costing less than one lakh even on the grounds of labour charges and paper costs. To this we may add that the advantages of rapid production within a very short time and of printing from stereo plates should also be considered decisive factors favouring the installation of rotary presses. It is perhaps the limitations of finance that prevent many newspapers from modernising their presses by the installation of rotary machines. We have discussed this matter with the Industrial Finance Corporation and are informed that finance could be made available to newspapers for the installation of printing machinery on the same terms as for the expansion of other industries. If the manufacture of rotary presses in this country is started with assistance from government in the form we have mentioned before, it should be easier still for the Industrial Finance Corporation or other such bodies to help newspapers to reduce their printing cost and improve the service they provide to the public by installing such machines.

From Our London Correspondent

(Continued from page 16)

After a little practice the purchaser will be able to judge quickly which way of the sheet tears the weaker and thus, with machine-made papers, will come to recognise whether he is tearing with or against the grain. The former will be the weaker. The way of the grain is an important factor in all multi-colour and book printing work. Tearing will also help the purchaser to judge the fibre contents of the sheet. Only papers made from wood pulp alone tend to emit a harsh metallic sound, whereas esparto papers are softer and more velvety, although certain manipulation in manufacturing may defeat these effects. In papers containing a mixture of these fibres, the greater percentage of either in the furnish can be judged approximately by this method. Just as in coated papers, the furnish of the body paper can be determined. Machine-made rag papers possess considerable strength, but frequently sulphite wood is mixed in the furnish; consequently the greater proportion of this cheaper material can be relatively ascertained.

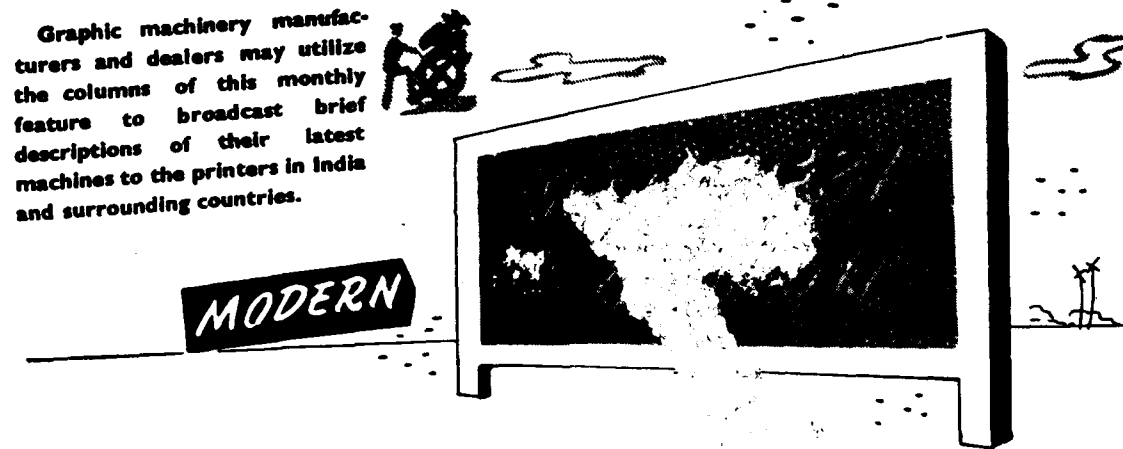
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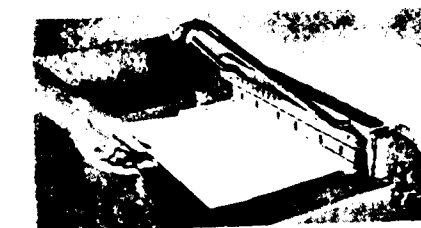
PRINTINDIA

Graphic machinery manufacturers and dealers may utilize the columns of this monthly feature to broadcast brief descriptions of their latest machines to the printers in India and surrounding countries.



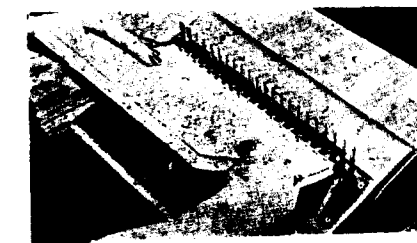
Plastic Binding System

The General Binding Corporation of Chicago has introduced a modern system of binding with plastic material and also with metal loose-leaf. They have put in the market their punching and binding machines in various sizes, and by using them their system of binding can be adopted with advantage by the Indian printers. With a small capital of about Rs. 1,500 or so a punching machine and a binding machine can be got from them and with this machinery it will be possible for the printers in this country to achieve modern plastic binding for certain types of books and brochures.



Precise Punching operation of the Paper

The first step towards binding books by this system is punching

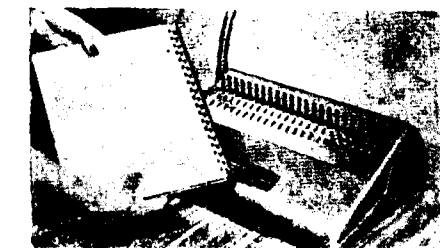


Binding operation of the machine with GBC Plastic Binding

the sheets on the punching machine. This is done easily by setting paper guide to centre the sheets under the punching dies, then paper is inserted and the handle is pushed down. By this simple operation the paper is punched precisely. This manual operation is completely eliminated with the electric power punch which the corporation can also supply.

The standard GBC punch pattern produced by all GBC punching machines will accommodate not only the plastic binding but also metal loose-leaf binding. Therefore sheets punched may be readily interchanged between the plastic and metal loose-leaf binding.

The punched sheets are now taken to the binding machine. A specific length of GBC plastic binding of any desired colour and correct diameter is chosen. The binding element is placed into position, the lever is pulled forward on the hand binding machine. The spreading fingers may move sideways engaging the plastic lengths and all rings opening downwards simultaneously. The punched covers and sheets are slipped to the open rings, the handle is returned and the binding snaps shut. Thus the book is bound very simply without any great difficulty. For the benefit of the readers pictures of the punching and binding machines are printed along with this article.



Plastic Bound Book after the operation

Newsprint

(Continued from page 20)

expansion of plantations might also add to the cost, by reducing production. Still, this has been the only attempt so far to manufacture newsprint in this country and so much capital and effort has been spent on the venture that it would be in the national interest to make it a success.

The production of the Mills is expected to be 100 tons a day though it might be some time before this figure of output is reached. Even when running at full capacity it will meet less than half of the country's requirements and in order to reduce our dependence on imports it may be advisable to start work on the installation of another mill. In view, however, of the difficulties that have been met with,

we are afraid that no fresh scheme would be undertaken until the present mill has furnished some experience and data for successful working.

The only solution for this difficulty would appear to be State trading in this commodity. We are aware of the numerous arguments for and against State trading, but we are inclined to think that in the case of this particular commodity which has a vital part to play in ensuring freedom of information and interplay of ideas, there is justification for the State to come to the help of the industry and the advantages of State trading would outweigh the disadvantages. The Indian Language Newspapers Association have also supported a proposal of this nature. Further, the prospects of sale of the newsprint in this country would be very favourable in view of the factors

that tend to increase its cost of production. It might therefore be of advantage if a State Trading Corporation took over the entire output of the mills on a fair basis, and sold it, along with imported newsprint, at equated prices. It would be necessary for the Press to bear to some extent the cost of developing the Indian mill and putting it on a sound basis and this can best be done by ensuring that the products are sold through an organisation which also controls all imports from abroad.

School of Printing

(Continued from page 7)

that these suggestions will receive the consideration they deserve, and the Conference will give the right lead in this matter, so that the school to be established will bring the greatest good to the greatest number of printers in India.

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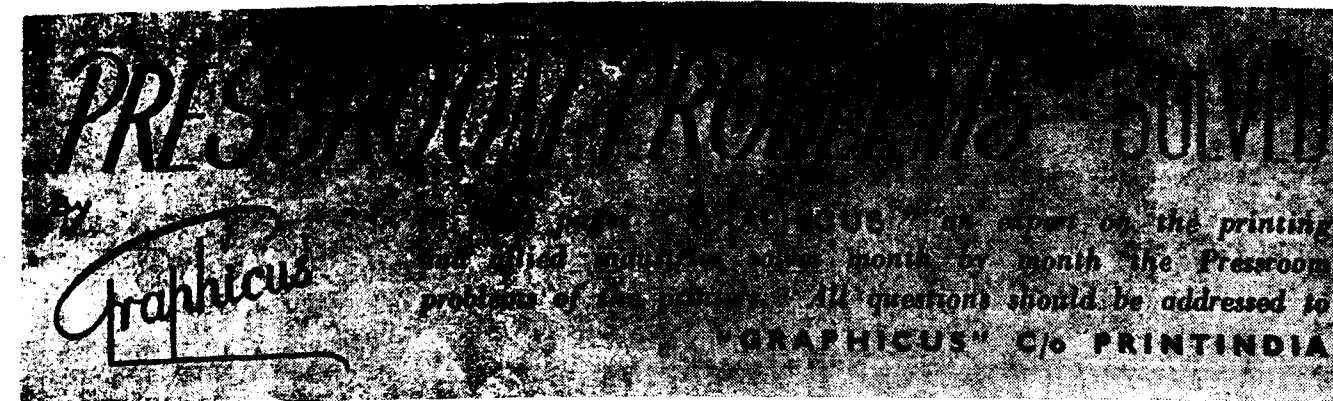
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13. Q. We recently received a set of tricolour blocks from our block maker with the progressive proofs, but the respective colours were not stamped on the block. How can we distinguish the colour of each block?

A. The most simple answer to this problem is to examine the blocks for traces of the ink used by the block maker to prepare the progressives. You will no doubt find traces of the yellow, red and blue adhering to the screen on the respective plates. If this is not so and the blocks have been so cleaned as to leave no trace, then compare each plate with the progressives. You will find marked characteristics on each of the progressives which are easily traced on the original plate. Where a clean red is printed you will find the blue block very weak in that spot and likewise with the other colours. Since each set of tricolour blocks have different characteristics depending on the original subject it is not possible to lay down a set procedure.

14. Q. Will you kindly let me know how the variation of temperature and humidity in the machine department affects rollers, inks and paper?

A. This question is best split into affects of humidity and affects of temperature separately.

(a) HUMIDITY does not usually affect machine rollers although some composition rollers do tend to be slightly hygroscopic and may therefore soften slightly under conditions of high humidity. Its affect on ink is usually indirect and often affects the drying, which it tends to slow down. The affect of humidity on paper is very great. All papers attract moisture and when the atmosphere is damp the paper will absorb a lot of water, especially when exposed sheet by sheet for printing. The result is that drying by penetration of the ink is retarded since a

stock that is already full of moisture cannot properly absorb the ink. This moisture also retards the complete drying of an ink which oxidises in much the same way as water prevents skinning when poured over the top of an ink in an open tin, this latter procedure although effective is not entirely to be recommended. Another affect of humidity on paper is to cause expansion and shrinkage of the sheet which creates great havoc when doing multicolour register work since the paper size varies from colour to colour.

(b) TEMPERATURE: High temperatures soften most composition rollers causing them to damage very easily. Great care must therefore be taken in setting your rollers at such times to prevent any undue pressure warping them. Ink is only affected in consistency; during cold spells it becomes stiff and extreme heat causes it to flow freely, in the former case raw linseed oil or a recommended ink reducer may be mixed if necessary and in the latter a good strong varnish will help. High temperature facilitates drying, and the addition of dryers is not so necessary. Dry temperature hot or cold does not affect paper very much although prolonged dry heat will cause the paper to become brittle at which time it tends to crack easily.

15. Q. We were recently running a tricolour set of halftone blocks. We found the blue ink was not being taken on the yellow and red printings. What is the reason for this?

A. It would appear that the yellow and red inks had dried too hard and possibly crystallized. It is essential to ensure that the preceding colours do not dry out completely before printing the subsequent colours. In the case of long runs where only one machine is used for the whole job, the drying of the yellow and red should be slowed down proportionately. If in doubt consult your ink maker.

All India Printers' Conference & Exhibition Third Session

Organisers: Madras Printers' & Lithographers' Association. 11, Mc Nicol Road, Chetput, Madras-10
December 1, 1954 Phone: 4366

I am glad to inform you that the Third Session of the All India Printers' Conference and Exhibition will be held in Madras during the month of February 1955.

The open session of the Conference will be held for three days from 6th February 1955 and the Exhibition will continue for about three weeks.

As in the First and Second Sessions of the All India Printers' Conference and Exhibition held in Bombay and Calcutta, a competition in printing, process-engraving, book-binding, etc. will be held during the period. It has been decided that the articles sent for competition should be certified by the Producer to have been produced during the period 1950-54. Exhibits which were exhibited in Bombay and Calcutta are debarred. Details about the size of exhibits, date by which they should reach, etc., will

be sent to you by the Exhibition Sub-Committee shortly.

Exhibition that has been arranged this time is going to be the best ever held in our Country. Already all the stalls have been taken up by Indian and foreign manufacturers. Those who would be partaking the Exhibition include (1) D. W. V. Deutsche Waren-Vertriebsges. mbH (2) Monotype Corporation Ltd., (3) Indo-European Machinery Co., Ltd. (4) East Asiatic Co. (India) Ltd., and (5) Printers House Ltd., in addition to a number of others. They have programmed to display the latest machinery. A number of foreign engineers are coming to India especially for this purpose and the Exhibition would therefore be an education in itself for those who are interested in printing. It would indeed be worthwhile your coming down to Madras to witness the Exhibition.

You will kindly inform the Conference Sub-Committee the number of delegates who will attend the Conference. We should also like to know the type of accommodation and food you will require during your stay in Madras. There are suitable hotels and boarding houses where we can book your room on receiving notice of your request.

Madras is rather cold during the month of February. So it is advisable that you are provided with sufficient warm clothing. All the first class hotels provide beddings.

Arrangements have also been made for the visit of the delegates to the different printing presses. We are also trying to arrange their visit to Mahabalipuram, Conjeevaram, etc. which are historically important in South India.

On behalf of my Committee and Printers of Madras, we extend to you our most cordial welcome.

S. VISWANATHAN

Honorary Secretary, Madras Printers' & Lithographers' Association.

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IPEX International Printing Machinery & Allied Trades Exhibition

(Continued from page 11)

kept on the "secret list" by exhibitors, and not until the covers are removed from the machines on the morning of the opening day of IPEX will the full story of scientific progress be revealed.

PRESES OF THE PAST: The unveiling of a memorial tablet to Caxton on the site of his first printing press—in what is now the Henry VII Chapel of Westminster Abbey—gives public expression to memories that have lived for nearly 500 years in the craft of printing.

The Caxton Press was an adaptation of a Continental wine press. To operate it, he pulled on a long lever. We still "pull" a proof.

When he moved to Deans Yard his workers met in the adjoining chapel of St. Anne's to discuss the "art and mystery" of their craft, under the watchful eyes of the priest and his writer.

Today, our trade unionists still hold their "chapel" meetings, the principal officers being addressed as "Father" and "Clerk."

Caxton used a slab of granite for his make-up table. Today we still refer to "the stone"—although it is made of steel.

Looking Back: The early pioneers of print built better than they knew, for today the Graphic Art has proved the greatest civilising force of mankind. So for a moment, let us look back as well as forward.

The Chinese used baked clay type a thousand or more years ago in the heyday of the Oriental Empire; but Western civilisation started in 1450, the year when the German Gutenberg is credited with the invention of the adjustable mould

for casting type. Noted French and Italian typographers in the years to follow have left us a legacy of beautiful designs; then a Frenchman invented the paper-making machine and helped in 1803 to operate the first in England. A German immigrant to America, Mergenthaler, produced the first practical linecaster, and another American, Lanston, invented a single-type system of mechanical composition—although he went to England for finance with which to develop it.

High Priests of Print: Britain's contributions since Caxton's days have been substantial. Printing developed mainly in the monasteries to replace manuscript. Lord Stanhope made a cast iron printing press in 1800, using screws and levers to force the impression. At that time inking was still done by hand, with a ball or pad, the paper being laid on sheet. It was a slow process with the outputs, perhaps, in the region of 150 copies an hour.

The earliest King's printing house was set up at the Abbey of Blackfriars in 1770, and John Walter took it over fourteen years later and founded London's famous *Times* newspaper which in 1814 pioneered the use of steam power. This press was made in London by Fredk. Koenig and his partner Bauer, and historically it is regarded as one of the greatest advances in printing technique.

From then on progress was rapid. A Londoner, Edward Cowper, invented the curved stereo plate for rotary printing and, with his partner Applegarth, he made a remarkable machine carrying four cylinders of type, with four feed boards, to produce *The Times* at the record speed of 5,000 copies an hour.

They doubled to eight cylinders, and the important British export business of printing machinery manufacture was begun!

Rotary Revolution: In 1851 Thomas Nelson, whose father founded the Edinburgh firm of that name, showed at the Great Exhibition in Hyde Park, London, a web-fed rotary press with curved stereotype plates and a serrated knife for dividing the web into sheets. This was hailed as truly revolutionary. The first complete rotary press, however, was made by Walter for *The Times* in 1868. It even had pumps to circulate the ink, although the first machine did not fold the sheets after they were cut.

The lithographic process and multi-colour printing followed rapidly during the 19th century but it was in the present century that offset printing came into its own with the machines designed by A. B. Evans of Leeds.

It was at the British Industries Fair of 1950 that the potentialities of offset colour printing really impressed the world, when the first Hoe 4-colour web-fed offset press, capable of printing newspapers and magazines in four colours on each side of the web at speeds up to 50,000 copies an hour, was introduced, and a section shown in action.

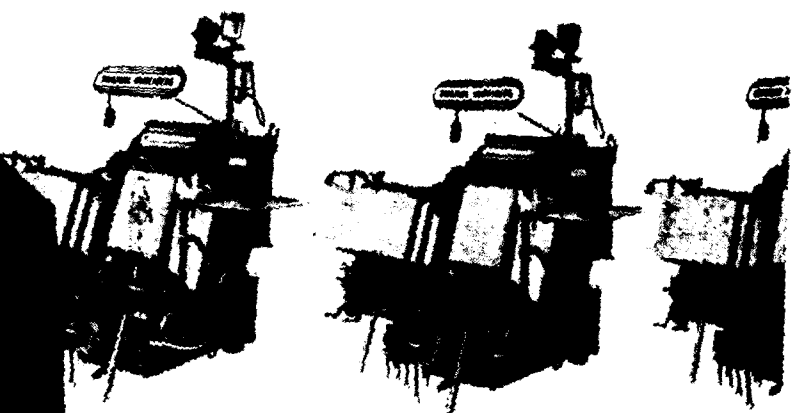
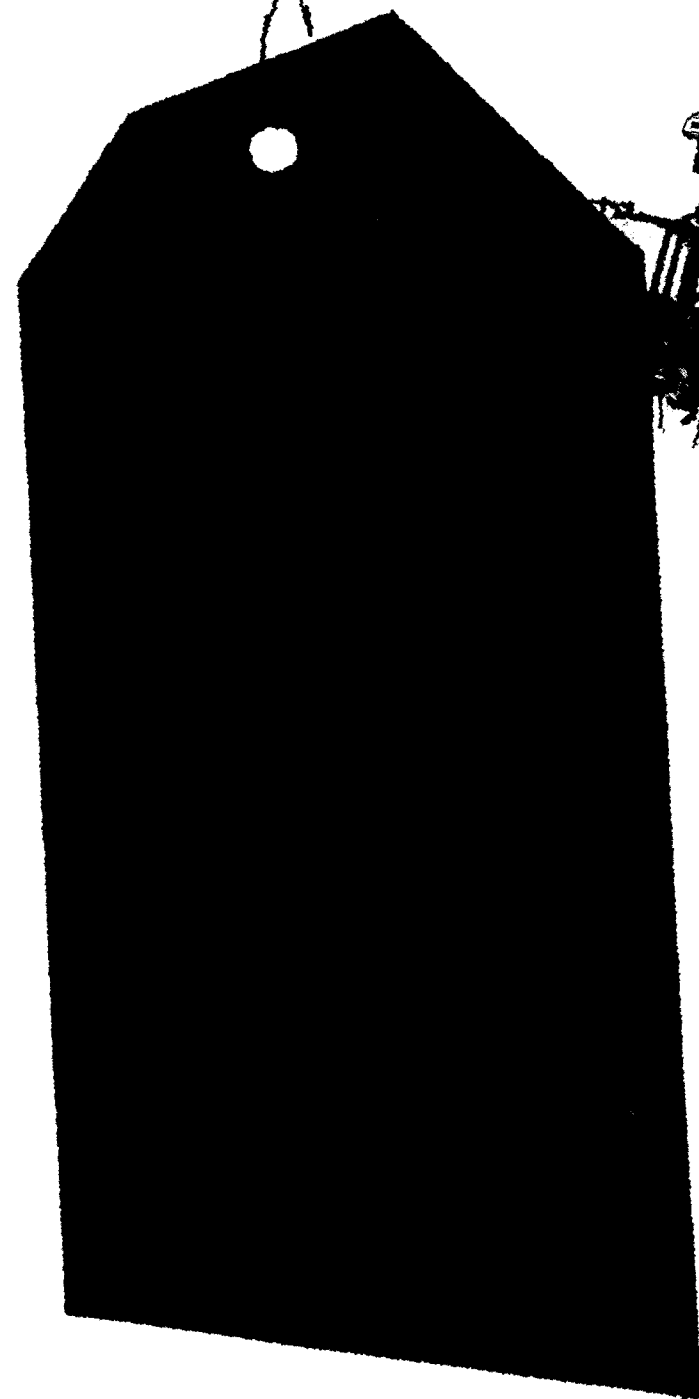
This press uses the Allers stainless steel plate for the printing arrangement and is in regular commercial operation at Copenhagen, Denmark, and Melbourne Australia.

Forward to IPEX: Many important men and their processes have, of course, been omitted from this skeleton history of the craft, photogravure, for example, the web-fed side of which was largely developed from the Lancashire calico printing presses of some 50 years ago.

For there the true measure of inventive progress will be displayed in an international assembly of machines and methods gathered together so conveniently under one colossal roof.

IPEX 1955, will be another date in history.

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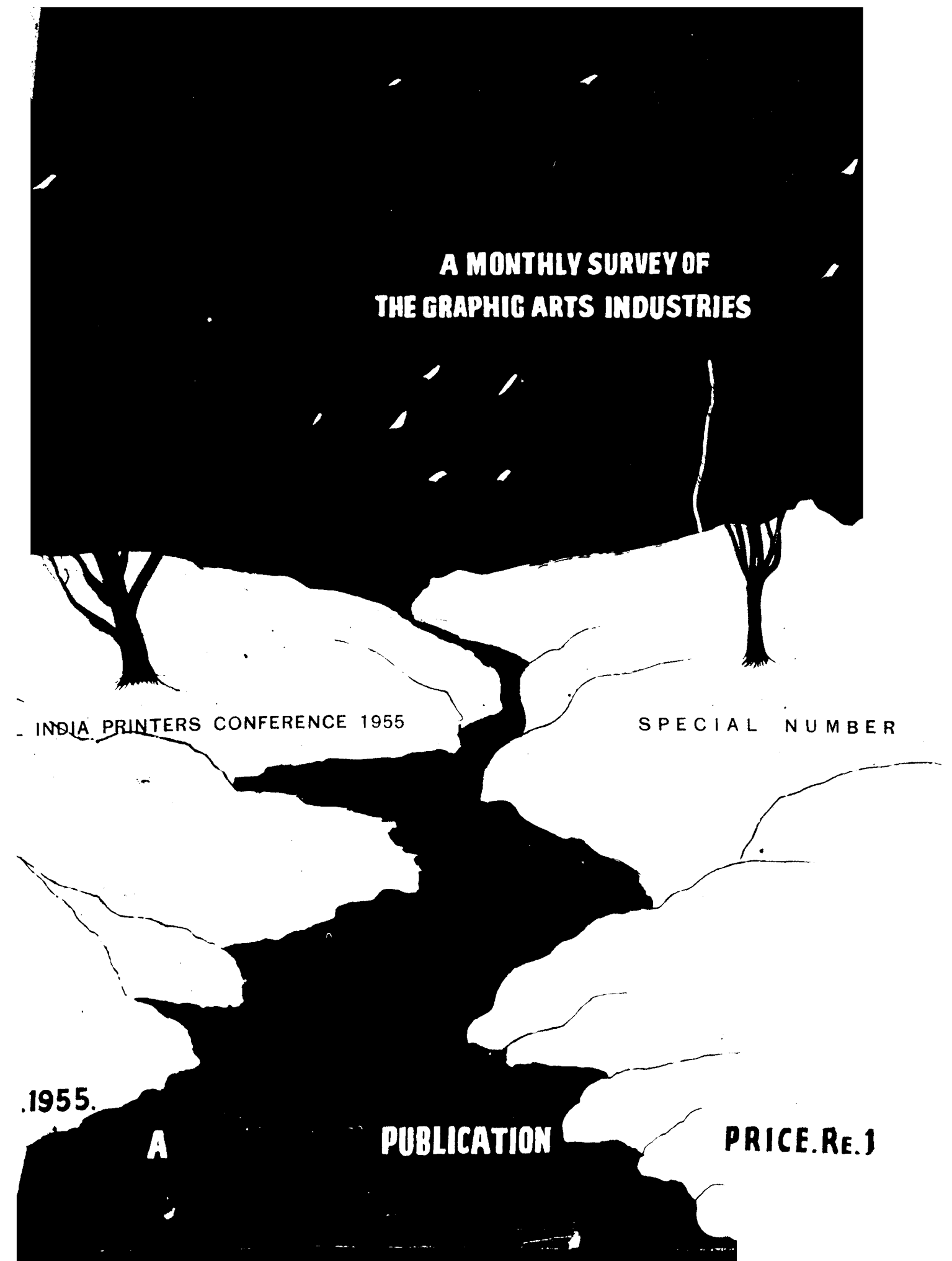


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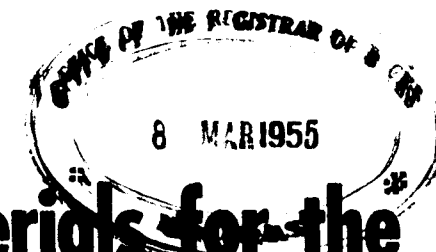
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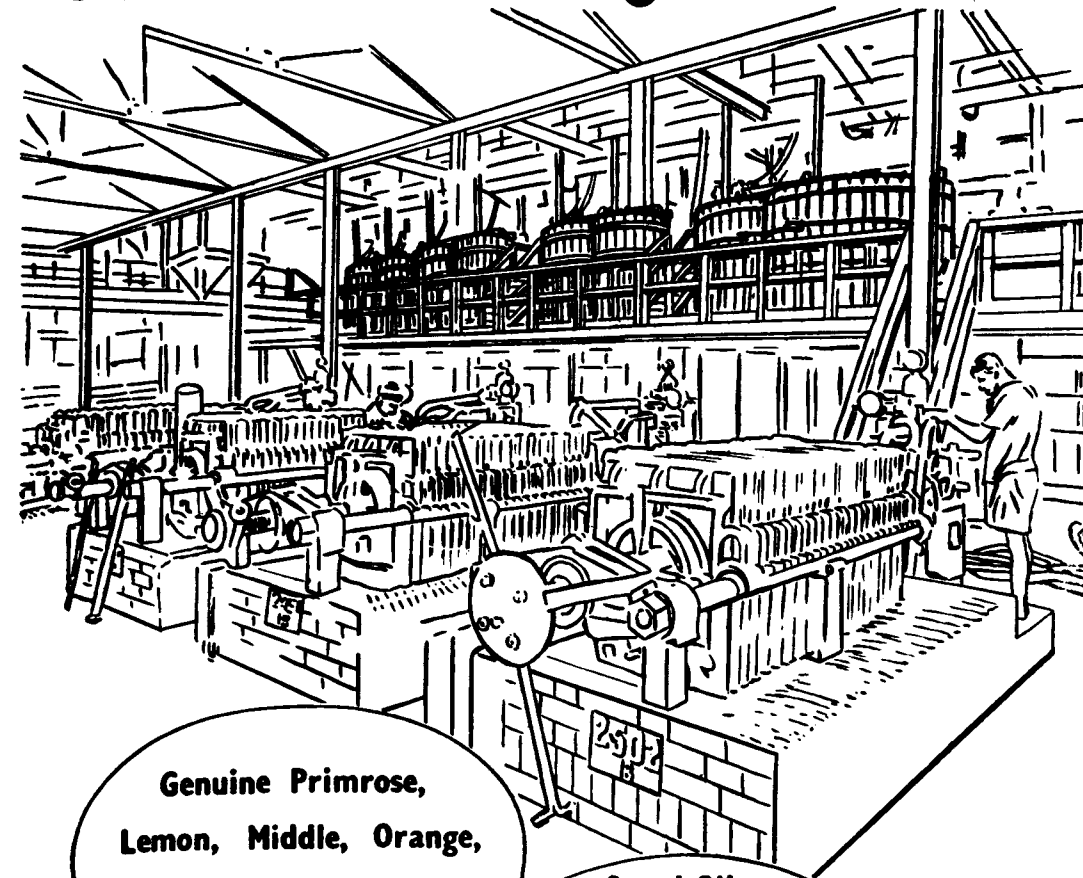
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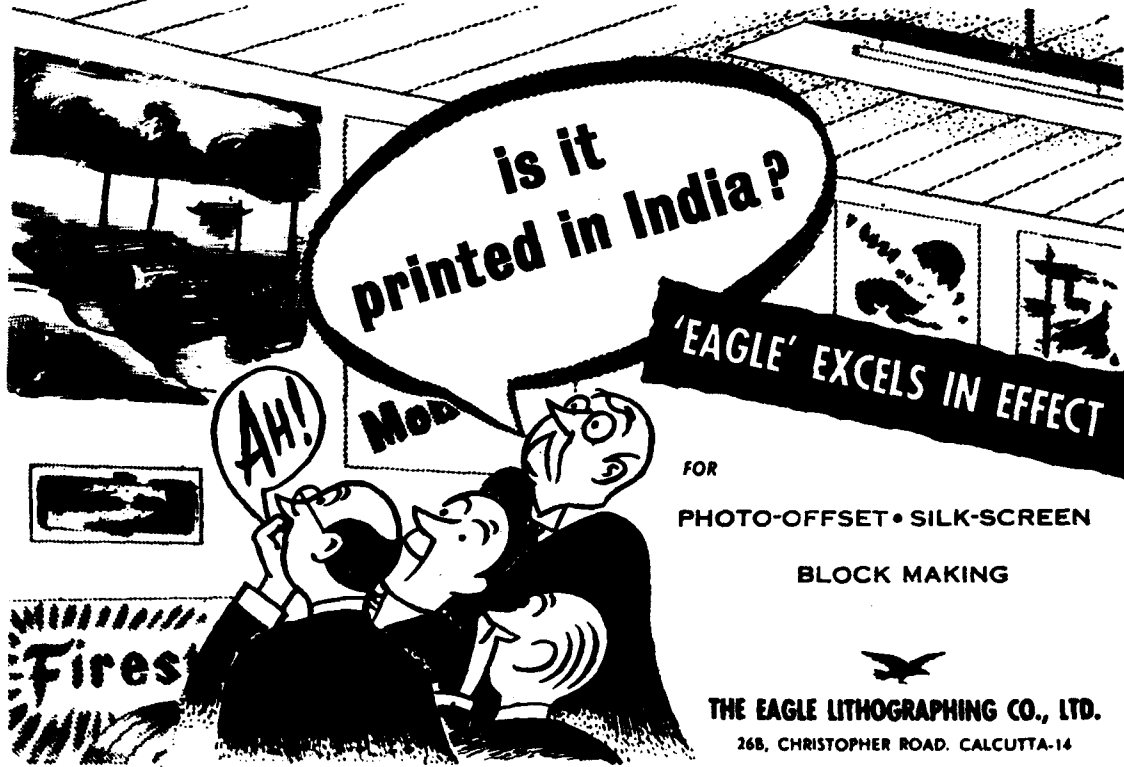
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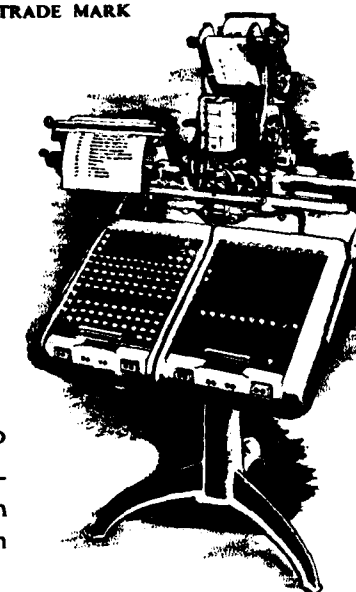
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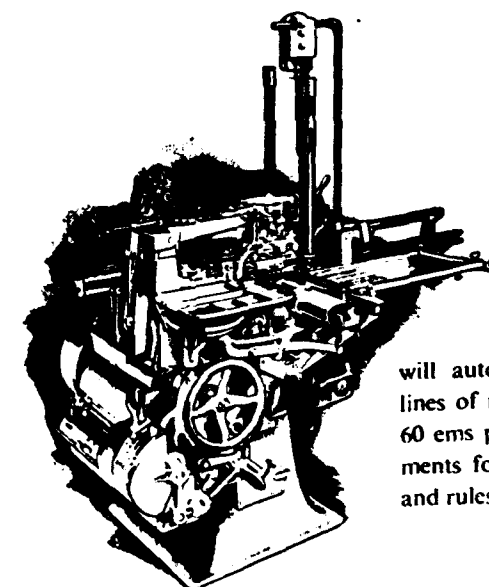
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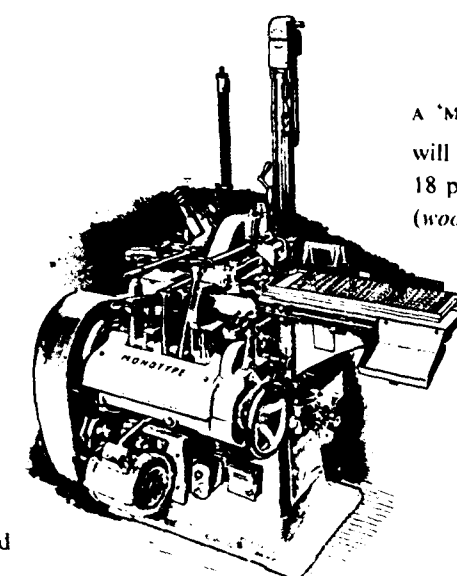
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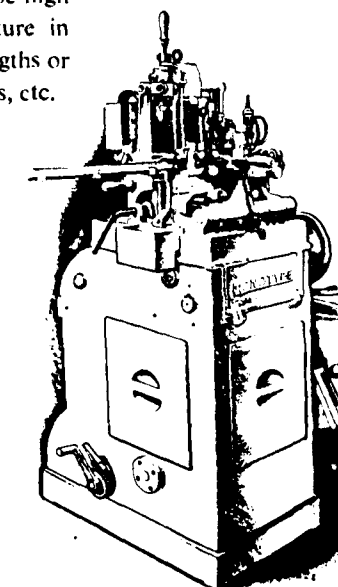
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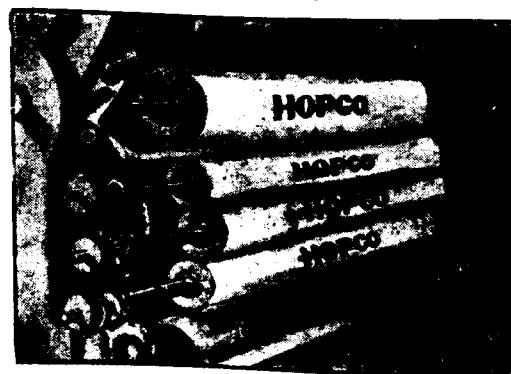
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VOL. 3]

FEBRUARY 1955

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EDITORIAL

THE ALL INDIA PRINTERS CONFERENCE THIRD SESSION, MADRAS

The Third Session of the above Conference held in Madras was a mammoth success, judged from every angle. Thousands of printers in India are hungering to set up higher standards of production and these annual conferences, where hundreds of big and small printers are brought together, have undoubtedly instilled in everyone an enlarging aspiration for better work. With each succeeding year the All India Federation of Master Printers is growing into a gigantic organisation and under its motherly wings the printing industry in India will ere soon discover its ordained stature.

The Exhibition organised in connection with the conference was amply instructive and it was the best the printers have yet seen in this country. The participation of foreign manufacturing units in the exhibition proves the importance of the Exhibition beyond a shadow of doubt.

In spite of the momentary glory of these conferences, the Indian printers unfortunately labour under circumstances that in no way are conducive to quality workmanship. Costing and estimating which are the nerve centres of any organisation are practically unknown to many printers. The late Sri S. C. Mazumdar pointed this out in his presidential address to the second session of the All India Printers Conference at Calcutta : "A serious problem that faces not only printers but also various other industries in this country is the bane of price cutting, quoting below production cost. In the days of depression, nothing it seems, is capable of stopping the progress of this cancer in the industry's body. When orders are scarce, people want to catch at any straw, however flimsy it may be to keep the business running. It is the want of knowledge of costing which is at the root of the suicidal policy of price cutting. I hope that the All India Federation will set up a committee of competent printers and technical experts to collect necessary data on the basis of which production cost of each item may be found. When a printer knows the hourly cost of production of an item, he will think twice before quoting a price below cost."

The All India Federation of Master Printers set up at Bangalore a costing and estimating committee. Though it is more than ten months since the above committee has been set up, it is unfortunate that no costing system has yet been recommended for adoption by the printers on a nationwide scale.

I would advise the All India Federation to expedite the above work and immediately publish two books, one on costing, the other on estimating. These books should be published not only in English but also in all vernacular languages of India and they should be circulated throughout the country to lakhs of printers. This will be a signal service to the printers and this may ultimately rally thousands of printers under the banner of the Federation.

Another important matter that should receive the serious attention of the Federation is the deserted junk and condemned machinery from overseas imported into India and finding its graveyard in our country. The Federation should take up this issue with the Government and see that printing machinery of an antediluvian nature, manufactured prior to a certain year (to be fixed by them) is not imported into this country. This step will safeguard the interests of many an ignorant and unwary printer.

The Indian Government should accord greater recognition to the resolutions passed at the annual conferences and they should assist the development of the printing industry which yields them a substantial revenue by way of umpteen taxes. The Government of India will be doing a great service to the printing industry, if they send out a delegation of Master Printers of India on a six-month study tour of Europe, U. K. and America. The delegation so sent may be asked to submit a report of its findings and give its suggestions for the improvement of the existing Indian printing industry. Such a report in a way similar to the British Productivity Team's report of printing in America will be immensely useful to the Indian Printers at this juncture. The Federation may be entrusted the job of suggesting the names of experienced persons to be included in the delegation.

In unity lies strength. In incessant aspiration combined with knowledge and effort lies noble achievement. Let us always keep regnant in our minds the invaluable and timeless message of The Mother, Sri Aurobindo Ashram, to the Graphic Arts Industries: *"Be true to your ideal, and you are sure to rise still higher in your achievement."*

—TEMPORAU

INAUGURATION OF THE ALL INDIA PRINTERS CONFERENCE

(BY OUR CORRESPONDENT)

The All India Printers Conference was inaugurated on 6th February at the famous Museum Theatre by Sri Sri Prakasa, the Governor of Madras. Hundreds of delegates from all parts of India jubilantly gathered at the theatre and particular mention should be made of a dozen visitors from East and West Germany who also participated in the Conference. The Natal Press Owners' Association was also represented by their delegate Mr. Pillai. Sri K. Srinivasan, Managing Editor of The "Hindu" who should have presided at the Conference could not come because of a bereavement in his family and his Presidential address was read out by Sri C. R. Srinivasan of 'Swadesamitran'.

After prayer, Sri S. S. Vasan, Chairman of the reception committee delivered his welcome address which is published elsewhere in this issue. Sri Sri Prakasa, the Governor of Madras in his inaugural address thanked the organisers for the honour done to him by their inviting him to inaugurate the Conference.

The Governor dealt at length on the power of the press and paid a tribute to the contribution of Madras in the field of journalism. He pointed out that most of the materials required in the printing industry were being imported from abroad and he hoped that the Federation would give a lead in the manufacture of printers' requisites in this country. The Governor said that the personnel working in the printing industry naturally required

a good amount of training. He paid a tribute to the proof-reading in Madras which was not a headache as in the North. In a galley sent out by a Madras press one would find very few mistakes. In a whole galley recently sent to him he could not find a single mistake and lest it should be thought he did not go through it, he changed a comma into a semicolon. There was great scope for improvement and the Governor hoped that the deliberations of the Conference would elevate the standards in all directions. Amidst cheers, Sri Sri Prakasa closed his speech with the remarks: "The purpose for which you are assembled here will be fulfilled and you will go forth from this hall with confidence and strength to carry on your work

with greater vigour and greater success."

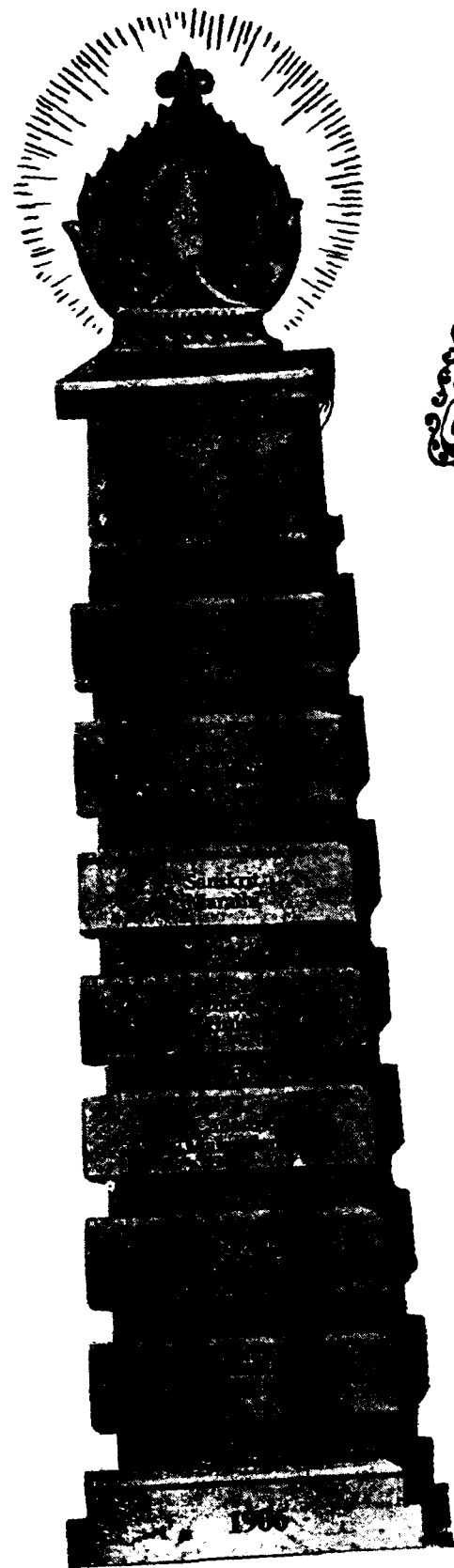
Sri C. R. Srinivasan, then read out to the delegates the prepared Presidential address of Sri K. Srinivasan which is published elsewhere in this issue.

Sri S. Viswanathan, General Secretary of the Madras Printers' and Lithographers' Association read out messages received from Dr. S. Radhakrishnan, Vice President, Sri R. R. Diwakar, Sri P. S. Kumaraswami Rajah, Sri Pattabhi Sitaramayya, Sri K. Santhanam, Dr. C. P. Ramaswamy Iyer, Sri Morarji Desai, and Sri J. C. Jain. Mr. V. M. Philip, President of the Madras Printers' and Lithographers' Association, proposed a vote of thanks.



Sri Sri Prakasa, the Governor of Madras, inaugurating the All India Printers Conference at the Museum Theatre

FEBRUARY 1955

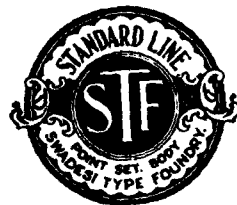


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WELCOME ADDRESS

By
SRI S. S. VASAN
Editor, "Ananda Vikatan"

".....Madras has always been in the forefront of the printing trade," Says Sri S. S. Vasan,
Editor of the famous Tamil Weekly "Ananda Vikatan"

I feel it my duty, in the first instance, to thank the Madras Printers' & Lithographers' Association, the organisers of this, the 3rd All India Printers Conference and Exhibition, for having elected me Chairman of the Reception Committee. I am aware that I—the publisher of a small, pocket-size Weekly Tamil paper—do not in any way deserve this great honour. So I was rather hesitating to accept the Chairmanship. But as the invitation was, in a way, "pressing" I accepted it, with the consciousness that I had nothing to fear when I am under the protecting wings of our esteemed President and our great and popular Governor. His Excellency has endeared himself to us so much that we in Madras have come to feel that no important function in Madras can be complete without his benign presence. We are therefore deeply indebted to him for his kindness in responding to our request to inaugurate this Conference.

I think it will be impertinent on my part to presume to introduce to you our very distinguished President, Sri K. Srinivasan, who has been so ably maintaining the highest standards and traditions of Journalism bequeathed to him by his no less great father Sri Kasturi Ranga Iyengar.

In this connection I would like to commend to your memory the name of that great and pioneer patriot of South India, Sri G. Subramania Iyer, whose centenary was

recently celebrated in many places. Besides starting the *Hindu* he was the first person to start a Daily newspaper in Tamil, the *Swadesamitran*. After his death the editorship of that paper passed on to another brilliant journalist and statesman of the last generation, the late Sri A. Rangaswamy Aiyangar. It is a matter of great pride for us, in South India, that our oldest Tamil Daily is still keeping itself young and abreast of the times under its present equally distinguished editor, Sri C. R. Srinivasan, who will be presiding over the inauguration of this year's exhibition. Many of you assembled here may not know that it was the

Swadesamitran which first recognised the genius of the great Tamil poet of modern times, Subramania Bharati, and sustained him in his hour of need. All Tamils, therefore, owe a deep debt of gratitude to this great Tamil paper.

I need hardly mention, in a gathering of this kind, that Madras has always been in the forefront of the Printing Trade. I am not saying this in a spirit of boastfulness but as a matter of legitimate and pardonable pride. Thanks to a generally higher level of literacy among our compositors and other workmen, the proof-reader in Madras has no need to be a



Sri S. S. Vasan, Chairman of the Reception Committee welcoming the delegates at the third session of the conference

FEBRUARY 1955

“galley” slave. He could well afford to wait till the “forme” stage in order to chase the “Printer’s Devil”! No wonder therefore that some of the best book printing jobs were given to Madras from far off places like Lahore, Allahabad and even Calcutta. That is why, Sir John Woodroffe—the author of “Kundalini” and various other Tantric works—had his valuable books published in Madras, through Messrs. Ganesh & Co. For the same reason, the prolific number of inexpensive small books on our National leaders—published by G. A. Natesan—could have been possible, perhaps, only in Madras.

To Madras again I think the credit must go for a very unique venture in Journalism—a beautiful and colourful magazine devoted

solely to children, and printed in 7 different languages, Tamil, Telugu, Malayalam, Kannadam, Hindi, Guzerati and Marathi. The credit for this heptuplet goes to my esteemed friend in the film line, Sri Nagi Reddy and his very able colleague Sri Chakrapani.

I may perhaps seem to be slightly digressing from the field of printing proper, to that of journalism, but it is certainly not so, when one realises the great impetus that has always been given by the Press—especially the Daily Press—to the printing and allied trades. I would like to recall, in this connection, that the first linotype machine of importance was set up by the *New York Tribune* in 1886. The progressive development in the art of book printing also owed not a little to the initial initiative of the newspapers in

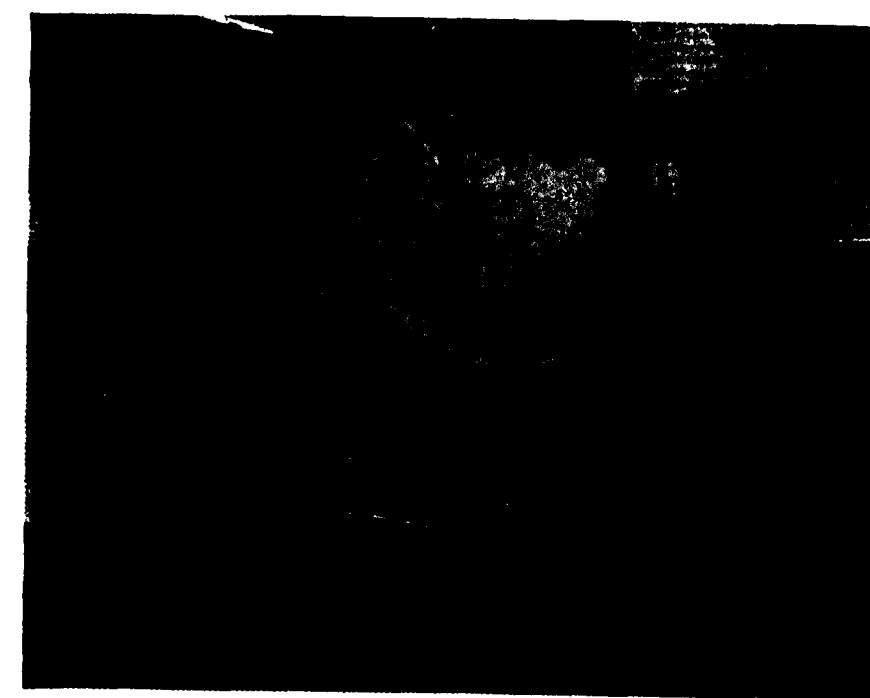
trying out all new innovations—from the steam-driven cylindrical printing press, installed by the *London Times* in 1815, upto the monotype press now in use in many of our own bigger printing establishments.

Coming to colour printing, the credit goes to the *Hindu*, of all Dailies in India, for introducing multicolour printing, more than a decade ago. I very well remember the whole front page of the *Hindu*, that I took, way back in 1941, to advertise one of my early pictures, Rishya Sringar. I and my colleagues were so thrilled by the brilliant colour effect that we requisitioned some 300 pulls of that page for publicity purposes.

Not only in contemporary printing, but historically also, South

India has been the pioneer, in many respects, in the field of printing. Some of you may be interested to know—as I certainly was—that the very first Indian press, as far as I am aware, was established in Cochin by Portuguese Jesuits, as far back as the year 1577. Those same Jesuits started another press, the next year at Tinnevely. It was only much later, in the year 1616, that the third press was started in Salsette, near Bombay. So far it was the work of the Christian missionaries. The first Indian to start a press (in 1662) was a Guzerati gentleman by name Bhimji Parekh. He seems to have been a missionary too, because his object in setting up a press was to publish books on Hindu religion—perhaps as a counter-blast to the Christians! This is an instance to show how much even our secular occupations are motivated by religion.

The first movable type press was also started in South India (in Tranquebar) by Danish missionaries, in the year 1712. In the next year they had Tamil types cast in



Sri H. K. Das of Eagle Lithographing Co. Ltd., receiving the trophy from the Mayor of Madras

Germany, and brought them to India. So I may say that the East German friends and our West German friends who are with us here, today, are no strangers to us! While I am dealing with the history of printing in India, I should like to

mention, in passing, that the Nana Phadnavis—the great leader of the “Sepoy Mutiny”—had copies of the Gita printed by stencilling the letters on tin sheets. I should like to think that he was perhaps the first pioneer in Ronco duplicating!

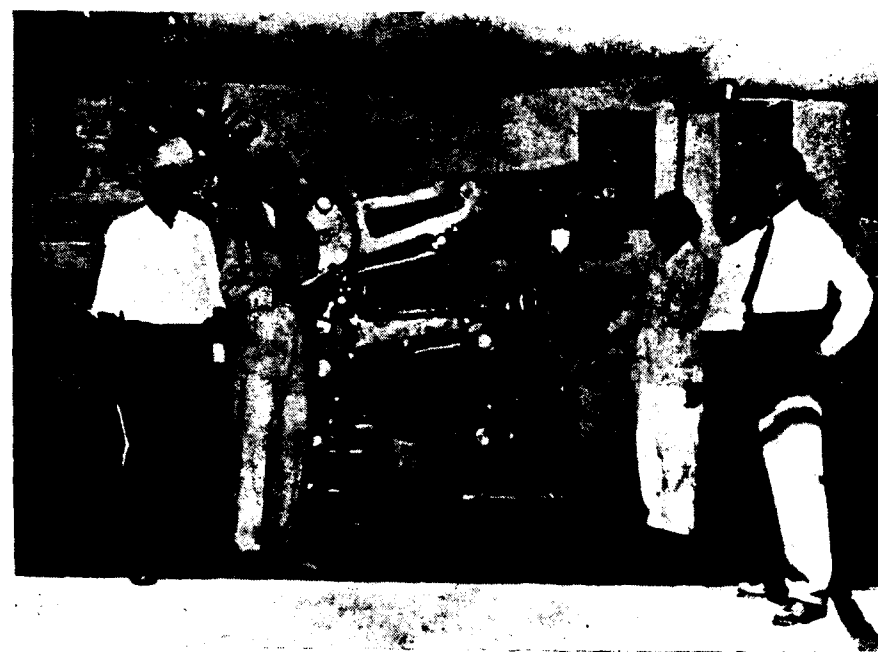
Now, coming to this conference, proper, though this present session is no doubt the third of a consecutive series of three, beginning in 1953, the first “All India Exhibition of Printing Machinery and Allied Industries and the All India Printers’ Conference,” as it was called, was held in Poona in 1937. Mr. V. A. Patwardhan was the Chairman of the Reception Committee and it was presided over by a very distinguished member of our profession, the proprietor of the Vavilla Press, Madras. You may be interested to know that this press was started as far back as 1856 and that it is still going strong. They have published some of most valuable books in Telugu, Tamil and Sanskrit, including a very carefully edited Southern Recension of the Mahabharata, in 18 volumes. In this



Delegates to the third session of the All India Printers Conference held at Madras with Sri Sri Prakasa, the Governor of Madras.



Sri Pillai, President of the Natal Press Owners' Association speaking to the delegates and visitors at the opening function of the Exhibition



The Stall of J. Mahabeer & Co., Delhi at the Exhibition

valuable work they have happily anticipated the colossal work on that text now being undertaken by the Bhandarkar Oriental Research Institute.

The next Conference was held in 1939 in the same place, Poona, under the presidentship of my esteemed friend, Sri Tushar Kanti Ghosh, editor of the *Amrit Bazar*

Patrika. Then came the war and the Printers' Conference had to be suspended, till it was revived in 1953, by Sri Parmanand Sugnoma Mehra of Bombay. It was inaugurated by Mr. Morarji Desai in the Sir Cowasji Jehangir Hall and presided over by Mr. J. C. Jain.

The Second post-war Conference was held last year in the Raj Bhavan, Calcutta. It was inaugurated by Sri H. C. Mukherjea, the Governor of West Bengal and the exhibition was opened by Sri N. N. Mukherjea, the Mayor of Calcutta.

And now, friends, I have great pleasure in extending a very warm and hearty welcome to all the delegates assembled here not only from all parts of India, but from overseas countries also, and I am confident that under the able guidance of our President, this session of the Conference will be crowned with success.

(Address delivered by Sri S. S. Vasan, Chairman, Reception Committee at the 3rd session of the All India Printers Conference at Madras)

The Printing Industry

By

SRI K. SRINIVASAN

Mg. Editor, "The Hindu"

"It is high time the Government scrapped the present Tariff classification and drew up an entirely new one to meet present-day needs on a rational basis," says Sri K. Srinivasan in his inspiring presidential address.

I am deeply sensible of the honour you have done me in asking me to preside over this morning's function. I am grateful to Sri Vasan for the high compliments he has showered on me. Much of the praise proceeds from Sri Vasan's unbounded affection for me and *The Hindu*. *The Hindu* has been blessed with a succession of able men to serve on its staff and every credit goes to them for keeping up the high tradition that has been built up over three quarters of a century. My knowledge of the printing industry is of course confined to what is derived from the printing work done in connection with the newspaper *Hindu*, where there is not even a job department. That is not saying much and yet the organisers would not take a refusal from me and here I am pitchforked into a position from where I am expected to give you, Master Printers, advice and guidance.

You will pardon me, therefore, if I indulged in generalities. Of all the factors which will affect the progress of the industry, the most important is the attitude of the Government of the day, as reflected in the policies and plannings in the industrial field. I hope you will not deem it irrelevant if I referred to the fundamental change in this respect which the Congress Government have sought to initiate - that public sector, as it is called, must increasingly determine industrial progress. With that end in view, they may shape their plans and regulate the requirements of the

Printing industry as well. In that context the Federation can play a very useful part by offering constructive suggestions.

A variety of articles, from paper to ink and machinery, come under Government control. Customs tariff and import licensing are two of the principal means in the hands of the Government for this purpose. Leaving aside newsprint, we shall first take ordinary paper as used by commercial printers. The per capita consumption of paper in India is perhaps the lowest for any civilised country to-day. Even so, we consume about 300,000 tons annually. Only part of this demand is met by indigenous paper manu-

facturers and the rest has to be imported. No one denies that this is a drain on the country's resources and it is just here that State control makes itself felt, but the way the control has been operated has not been as happy as one would wish. The position with regard to other printers' supplies is no better. The result of all this is reflected in the poor, and sometimes shoddy, quality that characterises printing in this country to-day. The worst specimens often come out of some Government presses.

Apart from Import Controls, Government regulation is also felt in another important sphere, viz., customs tariff. The vagaries and



A section of the delegates listening to the presidential address of Sri K. Srinivasan read out by Sri C. R. Srinivasan

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Sri S. Viswanathan (Madras) and Sri N. L. Contractor of Rainbow Inks along with some delegates at the Exhibition

anomalies of this are widely known. Much of the harassment caused to some classes of importers is due to the varied interpretation of the Rules framed by the Departments.

It is high time the Government scrapped the present Tariff classifications and drew up an entirely new one to meet present day needs, on a rational basis.

The trade has also to contend with the expansion of the Government presses and the threatened competition which it holds out against private firms. No one would quarrel with Government's schemes for expansion of its own presses, but it sometimes happens that new machinery is put in in a Government Press when there is no need for it and frantic attempts are then made to find work for idle machinery. The Federation should keep a watchful eye on any encroachments actually made on its legitimate sphere and seek redress in every possible way by enlisting the support of allied organisations as well.

The Indian printer cannot be said to be well served by his suppliers, whether of machinery or of sundry material. Some of the dealers are new to the products they handle and have to refer every little query to the manufacturers. It need not be stressed that manufacturers' representatives should be

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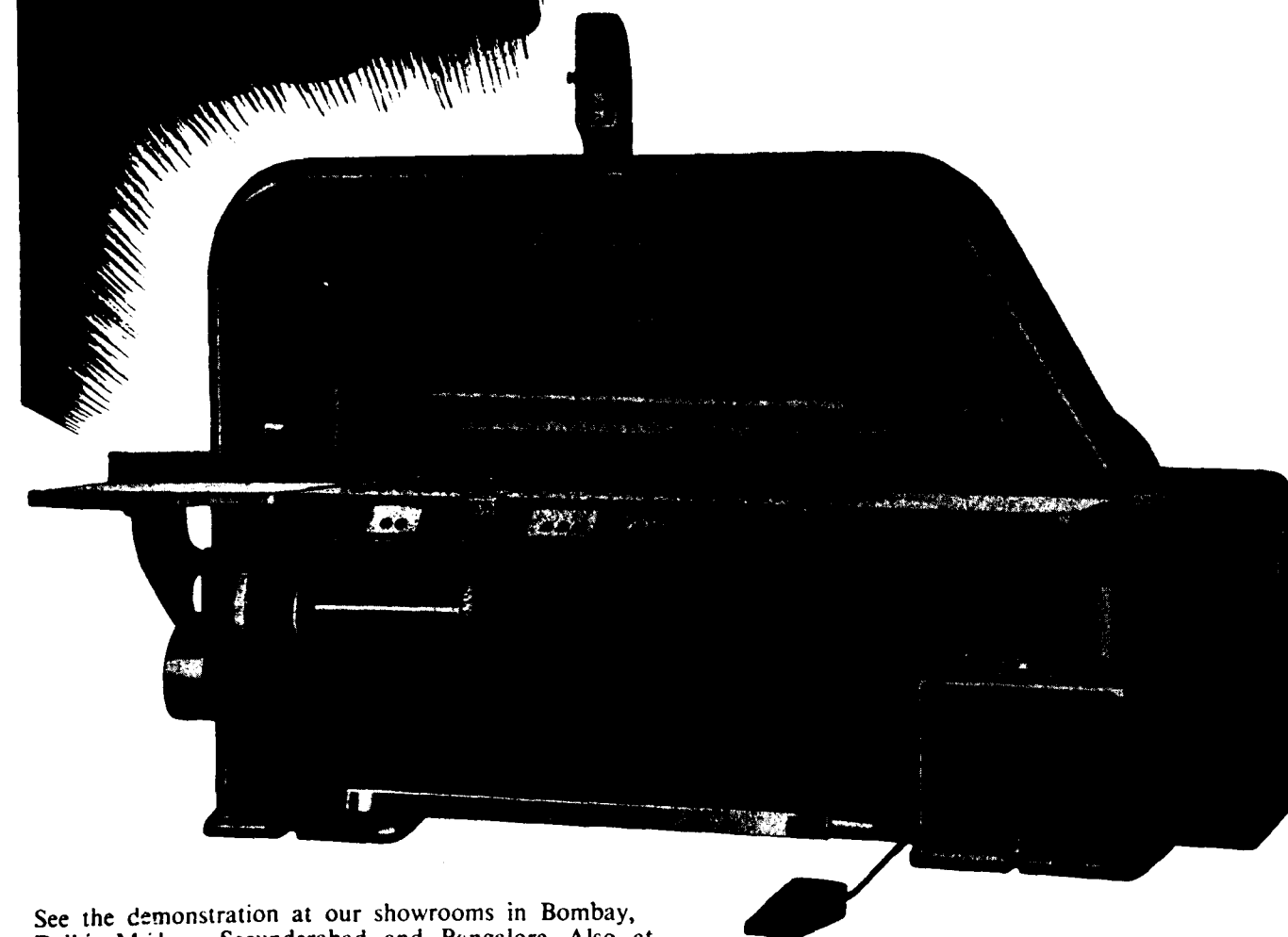
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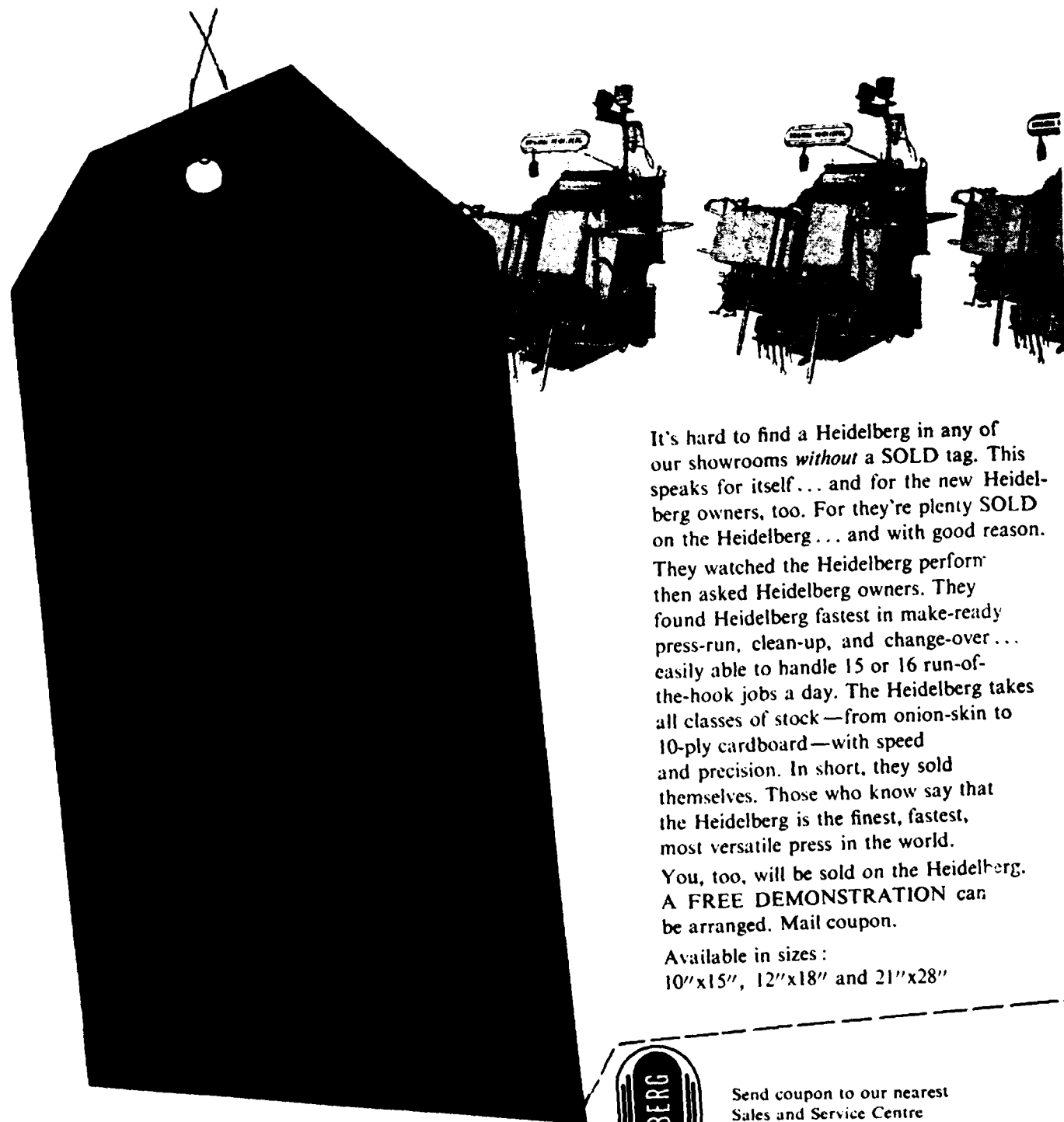
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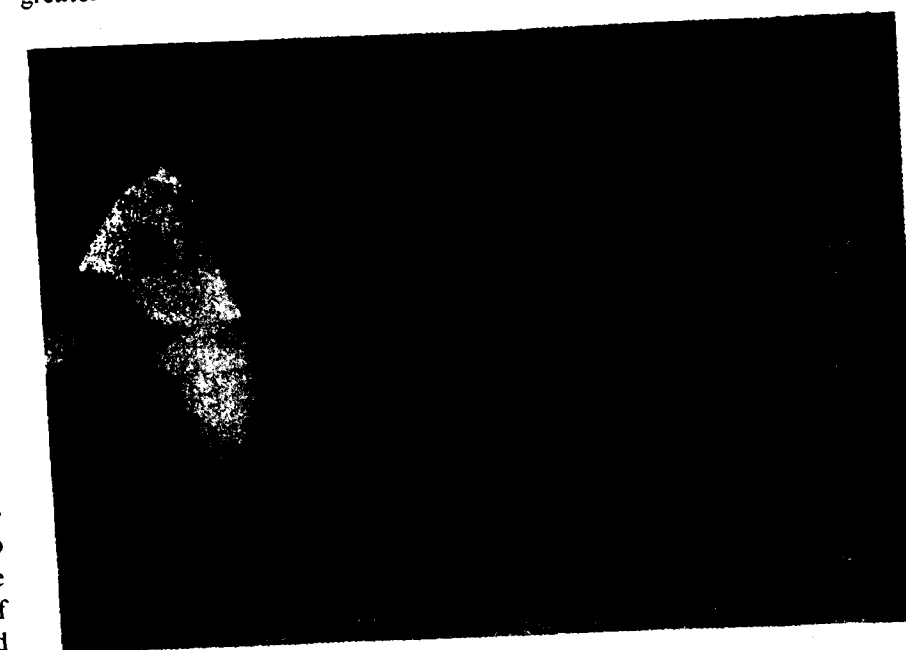
Mr John D. Barton, Manager of the Hooghly Ink Co., Ltd, Madras (second from right) and Sri R. G. Phadke of Typewriter and office Appliances (India) Co. Ltd. Madras (second from left) along with some Visitors at the Hooghly stall at the Exhibition

thoroughly conversant with the products they sell and be able to answer on the spot most of the general queries by customers. Many supply houses do not carry spare parts and do no servicing after sale. The Federation should devise ways and means to remedy this state of affairs.

Apart from a few specimens of excellent work done by some leading houses, much of the general run of printing is of a poor quality, which would not be the case if the print-buying public had been more critical. The public should realise that a well designed and well executed book or catalogue is as much a work of art and craftsmanship as any other and that good printing reflects the cultural advancement of the nation as much as art or music or the sciences.

Tropical weather conditions obtaining in India do not help to produce good results. Added to that, poor quality of paper, cheap grade inks and rickety presses are some of the contributory causes of bad printing. The lack of trained craftsmen however is the biggest handicap to the industry. The fact

that much excellent work is done by men with barely a knowledge of the alphabet speaks volumes about the uncanny genius which these men possess. That does not mean that trained men are unnecessary. In fact, lack of training is a great handicap to the men and with proper training the same men will gain greater confidence and do their



The Monotype Corporation's stall at the Exhibition was full of visitors

work with greater understanding. Till very recently there was only one institute for the whole of India that gave some sort of training in what was known as Printing Technology. Now the Central Government is planning to open regional training centres. This is no doubt a welcome step, but unless the training course is drastically re-orientated and is manned by proper men it may prove of little benefit to the trade. It is practically impossible to get craft apprentices trained in Western factories. What we need most is trained craftsmen for the various classes of work done in a printing house. One course, which seems to me will get round this difficulty, will be to get experienced master craftsmen from other countries who would train a band of energetic and enthusiastic young-men here, who, in their turn could pass on the tradition to others. In this manner in the course of years the Government schools will be manned by the proper type of teaching personnel who know their craft and can demonstrate working technique by their own practice to students under their care. Gradu-

FEBRUARY 1955



A view of the Charles Morgan's stall at the Exhibition

ally in the course of years these trained craftsmen who go out of these schools will take the place of untrained hands and thus help spread the benefits of their training to others in the factory.

All this needs much planning and organised work by Government and trade together. But, given the good will and the necessary drive, there is no reason why we should not succeed. The craftsmen's

course should be designed primarily for the working class and the training need not necessarily be given in English. Training given in the regional languages is bound to be more easily understood and absorbed by this cadre of pupils. As the emphasis is more on training in practical work, class teaching should be only for a minimum period. Actual craft training in factories should be insisted on for at least 5 years, at the end of which only the craftsman should be given a statutory certificate entitling him to a certain level of wages as may be agreed upon with representatives of the trade. Besides the craftsmen, various other classes of staff men should be trained in the schools. This course which will be open only to those with a higher educational qualification should cover a longer period of class training and should comprehend the higher branches of work like management training, machine maintenance, Press work, Book

planning, design, Printers' accounts and estimating, etc. As this training is of a more specialised nature no student should be allowed to take more than two allied subjects. Their diplomas should state any special distinction they obtained in the examination. I have gone into this question in a detailed manner because I feel that lack of trained craftsmen is the biggest hurdle in the way of progress. We cannot escape the charge that we have done so little to help ourselves get the men we want.

A second major handicap of the printing trade is the lack of a research institute. Such an institute by its research into the many problems and materials used by the industry could be of immeasurable value not only to the printer but also to the manufacturer. It could prescribe standards for the trade and render technical assistance to members. Both Government and the trade should co-operate to establish such an institute as early as possible. Even a modest beginning would go a long way to help the printer solve his problems. So far as South India is concerned, I believe the number of good sized printing establishments where special attention can be devoted to research is very small. South India has an abundance of small printers with a treadle and a proof press and a few founts of type but they can ill afford the time and they lack the equipment necessary to do research work.

Should we use indigenous products or should we import, is another vexed question worrying many people. Where the indigenous article is of a quality comparable with foreign stuff, there is no reason for preferring imported material to it. The one great bane of local manufacturers seems to be their inability to keep to a standard or uniform quality. While one batch may be exceptionally good the next



Mr. O'Hara of Winstone India Ltd., explaining the silk screen printing to a visitor at his stall

batch may be anything but that. No doubt the manufacturer has his own reasons but how does it benefit the trade to know it? Nor is the indigenous product available always in the quantity needed by a printer. Very often he is told to wait or to substitute. This is a big headache especially for the commercial printer who has to satisfy his client. He cannot tell his client to take it or leave it. In many cases the indigenous stuff has to be manufactured out of imported raw materials and in the end costs more than the foreign product. As printers are extremely competitive people they have only a low margin of profit and naturally have to think twice if they have to use the costlier indigenous produce.

Finally I must express my confident hope that Federation which has started so well should become a strong and powerful body which will not only protect the interests of the trade but would also safe-

guard the maintenance of a sound tradition in the printer's art and craft. You should not rest until every printer in the land has become a member of your association. High aspirations and ambitious schemes vanish into airy nothing unless they are built on a sound basis and backed by a strong following. The first effort of the Federation should therefore be to get more members and a bank balance sufficient to have an efficient secretariat. The Federation should not be just a handful of printers meeting periodically and drawing up a list of grievances against the Government or the trade. They should emphasise and bring home to every printer the help and technical assistance he would gain by becoming a member. I am sure the response will be quite satisfactory. I wish you God speed.

(The Presidential Address of Sri K. Srinivasan, Mg. Editor, The Hindu, at the third session of the All India Printers Conference held at Madras on 6th February 1955.)

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Inauguration of the Exhibition

(BY OUR CORRESPONDENT)

The Printers' Exhibition organised in connection with the third session of the All India Printers' Conference was inaugurated on 6th evening at the Y.M.C.A. grounds, Royapettah by Sri C. Subramaniam, Finance and Education Minister. Sri C. R. Srinivasan, Editor, *Swadesamitran* presided.

Sri C. R. Srinivasan declared that the newspaper provided a vital link between the public and the printer and whatever changes were introduced in the printing profession they naturally reflected in the production of the newspaper. The exhibits consisted of prints, printing machines and printing materials. In spite of the depressing conditions experienced by the Indian Artisans, they had produced amazing work of art. With their native talents, given modern machines, he had no doubt that the Indian Printers would produce work comparable to that of the most advanced countries of the West. The major hurdle in the printing industry is the availability of the machines within the resources of the Indian Printers. This problem could be solved by having credit corporations which would advance money for the sale of printing machinery which can be taken back in deferred payments.

The planning commission which was now engaged would do well to discuss ways and means of giving more knowledge to the public through the use of printing machines. Emphasising the need for decent and up-to-date equipment, Sri Srinivasan said that the Indian worker could equal and excel those engaged in similar work in other countries.

Sri C. Subramaniam, Education and Finance Minister, said that the Government are having big printing establishments and therefore they were interested in the developments taking place in the printing industry. The printing industry had developed so much in recent years that from being called the "Printing Art" it was now being signified as the "printing industry". He remarked that the printing industry had played a dominant role in the development of human thought and culture.

Concluding his speech Sri Subramaniam suggested to the organisers to bring out attractive multi-colour books for children as there was a great future for child literature in the country.

Sri S. Viswanathan proposed a vote of thanks. The Minister and

the other distinguished guests were then taken around the Exhibition.

AWARD OF PRIZES

On the 7th evening Sri K. Kamaraj Nadar, Chief Minister of Madras, presided over the function got up for the distribution of prizes to the winners in the All India Printers' Competitions. Sri M. A. Chidambaram, Mayor of Madras, distributed the prizes.

Sri Kamaraj Nadar congratulated the organisers of the Conference for organising such a wonderful Exhibition which helped one to understand the great strides of progress made in the printing industry.

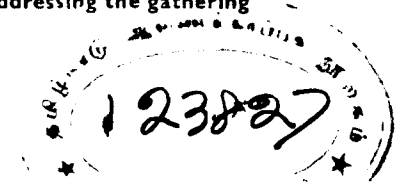
Sri Chidambaram, said that he was a printer himself and he was proud of the Exhibition.

The names of the firms that received the prizes are published elsewhere in this issue.



Sri C. R. Srinivasan who presided at the opening function of the exhibition addressing the gathering

FEBRUARY 1955



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Printers' Model

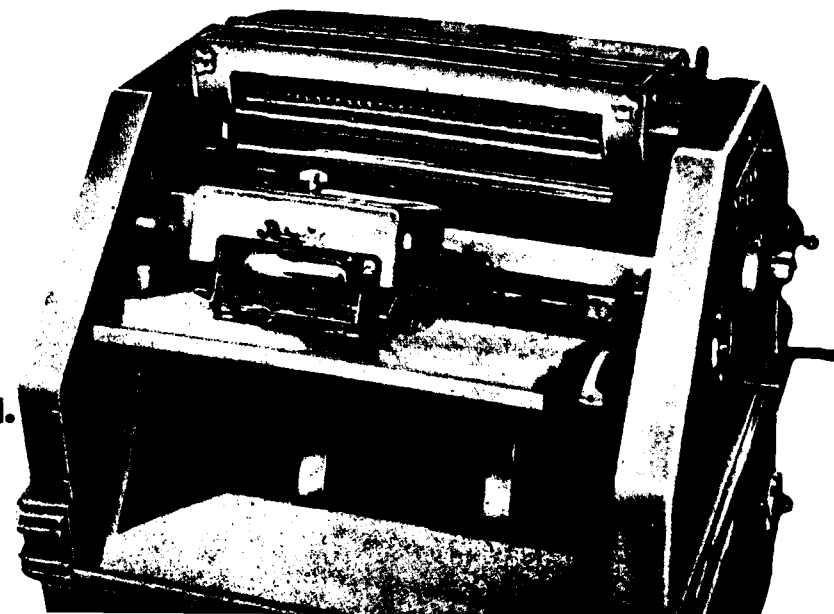
Rotaprint

R 20

SPECIFICATION

Net Weight: Approximately 1,300 lb.
Floor Space: 5' 1" x 3' 11" (Height 4' 5")
Paper Size: Minimum 8 1/2" x 11 3/4"
 Maximum 17 1/2" x 25 1/2"
Printing Area: Maximum image size 17" x 23 1/2"
 Plate 18 3/4" x 24"
Speed: Up to a maximum of 4,500 impressions per hour
Motor: 1 h.p.

If desired for additional ink coverage, Rider Roller attachment, including metal oscillator can be supplied.



AN Offset-litho printing machine of exceptionally sturdy construction. The R.20 embodies all the latest technical improvements to be found in this type of machine, including fully automatic suction stream feed from built-in feeder; fully automatic inking and the patented "ROTAFOUNT" damping—exclusive to Rotaprint machines. A feature of this model is the plate adjustment mechanism and pull side-lays. Other features are micrometer pressure adjusters, chain delivery, simplified handle operation, and the use of two paper feed trays, enabling reloading of stack whilst the machine is in operation. The capabilities of this unit permit it to meet, in every respect, the requirements of even the largest concerns.

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Resolutions Passed at the Conference

The All India Printers Conference assembled at Museum Theatre with Sri P. S. Mehra as the president and passed the following resolutions.

1. Resolved that this conference expresses its sincere condolence at the death of Shri S. C. Majmudar the President of the All India Printers Conference and Exhibition held in Calcutta in whose death the Printing Industry of India has sustained a serious loss.

2. Resolved that this conference puts on record its profound sorrow in the death of Shri M. Rajagopal Naidu, Bangalore, Shris B. Varadiah and R. V. Pillai of Hyderabad, V. H. Barne of Poona, F. T. Pithavadian of Madras, A. C. Dey and A. K. Guha of West Bengal and Sri H. Varawalla of Bombay.

3. Resolved that this conference expresses its appreciation of the fact that the Union Ministry of Education has under the First Five Year Plan accepted the programme of starting Regional Schools of Printing Technology and for that purpose had already sanctioned a lump sum of Rs. 1 lakh as first instalment to each of the States of Bombay, Madras and West Bengal. This conference also views with satisfaction that under the said scheme the Government of West Bengal had already set up an Autonomous Governing Body to conduct the affairs of the Printing School to be started at Calcutta for the Eastern Region consisting of people interested in the graphic art industry including representatives selected from the Calcutta Printing Press-owners Association and handed over to the said body the amount of the grant already earmarked for the purpose of establishing regional schools of printing.

This conference now requests the Govt. of Bombay and Madras to

set up immediately autonomous governing bodies for these regions on similar line as of West Bengal including representatives from the Bombay printing and lithographers Association and Madras Printers and Lithographers Association respectively and also to hand over to these bodies all responsibility and the amount sanctioned and earmarked for the purpose to start and for organise the schools of Printing Technology in these regions.

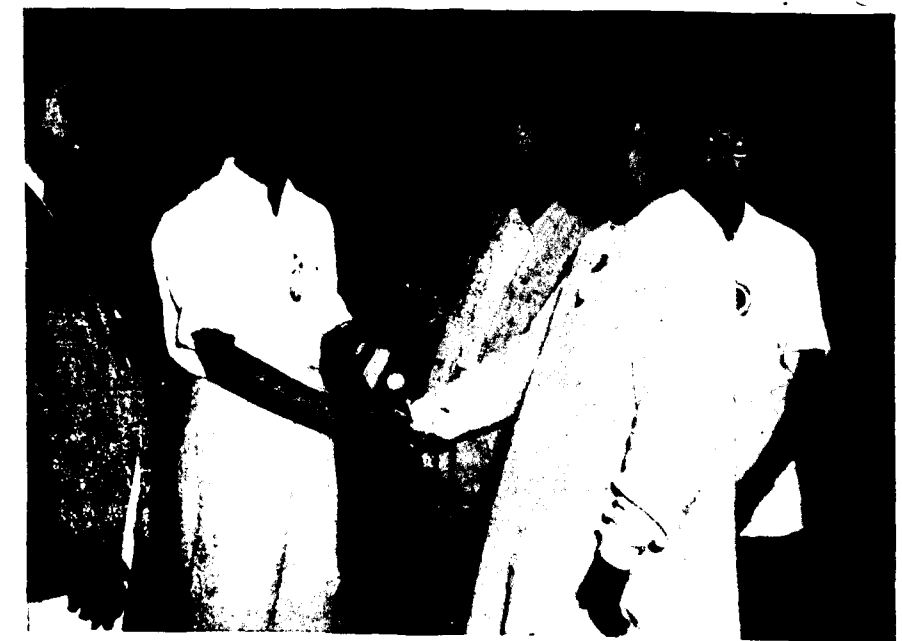
Further this conference requests the Govt. of Uttar Pradesh to take up the matter of starting a regional school of Printing in collaboration with the Govt. of India at Allahabad for Northern Region as recommended by the All India Declaration of Master Printers and to set up an autonomous governing body in the same line as that of West Bengal for the purpose.

4. Resolved that this Conference approves of the schedule prepared by the All India Federation of

Master Printers of plants, machineries and equipments and accessories required in the Graphic Arts industry and requests the Govt. in the Ministries of Finance and Commerce and Industries to replace the relative schedules in the Indian Customs Tariff and the Hand Book of Import Control Policy.

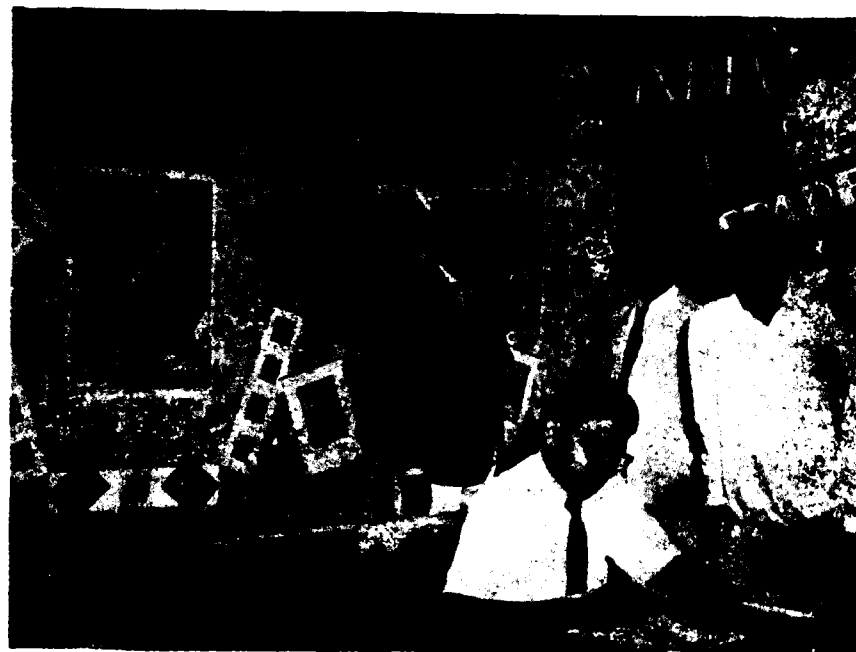
5. Resolved that this conference is of opinion that the photographic apparatus, equipment, accessories, films, sensitized plates and process chemicals required in the Lithographic Silk Screen, Collotype and Photogravure process of printing should be treated under item 72(2) of the Indian Customs Tariff schedule and thereby given an impetus to the Photo-Lithographic, Photogravure and similar processes in printing which are entirely dependent on the photographic process of reproduction.

6. Resolved that the Govt. of India in the Ministry of Finance be



Sri N. K. Gossain of Gossain & Co. Calcutta chatting with Sri B. L. N. Prasad, Mg. Director of Prasad process Ltd. at the Garden tea party, at Chandamama Buildings

FEBRUARY 1955



Sri N. L. Contractor, Mg. Director of Rainbow Ink & Varnish Mfg. Co., Ltd. (the person writing) and Sri E. J. Coelho, Business Manager of Rainbows standing in the rear at the Rainbow stall at the Exhibition

and is hereby requested to appoint at least two members from the All India Federation of Master Printers to the Import Control Advisory Board.

7. Whereas the Printing Industry in all its branches is an essential industry for all development purposes, social and economical and in all sphere of life; and

whereas this industry has already absorbed a considerable number of hands—skilled and unskilled—throughout our country and there is ample scope of employment of further hands if proper assistance is received from governmental has already resolved to eradicate unemployment from our country through the various Development and community projects already in hand. This conference urges upon the Government to take up the Printing Industry in all its branches within the purview of the second Five Year Plan and afford due and adequate aid and assist to make the industry self-supporting through all the State organisations or to all the Federating Units of the All India Federation of Master Printers.

8. This conference protests against the curtailment of the value and or quantity of the Import Licences to actual users of Paper and Boards overriding the recommendation of the State Director of Industries.

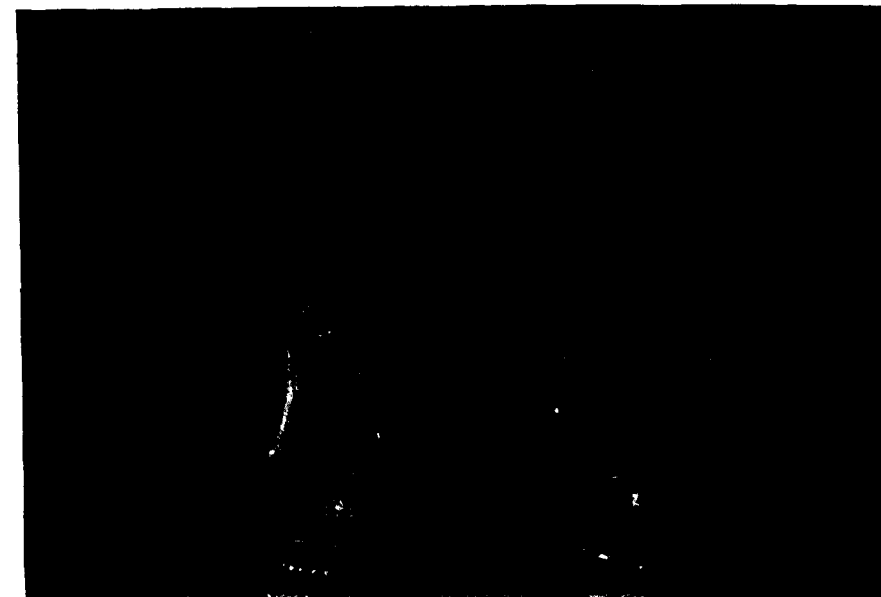
9. This Conference urges the Govt. of India to constitute a Quality Control committee consisting of representatives of the All India Federation of Master Printers, Indian Paper and Board Mills under the Development Wing of the Ministry of Commerce and with a view to redress the grievances of the consumers with regard to the quality and supplies of Paper and Boards.

10. This Conference views with great concern the change made in the Import Policy for the period January-June 1955 in which the import of Printer Advertising Material has been put under the Ad Hoc licencing basis. As this policy is detrimental to the growth of the printing industry this conference urges the Government to reimpose a complete ban on the import of printed advertising material.

11. This conference views with great concern the Import Policy for the period January-June 1955 in which the import of Playing Cards from Hard Currency Area is allowed, whereas there is total ban on import of its principal raw material namely Playing Card Boards from Hard Currency Area and much restricted imports from Soft currency area.

The conference urges the government of India to ban the import of of Playing Cards and request the Government of India to allow import of Playing Card Boards liberally from soft currency area and partly from hard currency area.

To manufacture playing cards of the standard as those from U. S. A. and other countries special qualities of Playing Card are essential to the Indigenous Industry and therefore this Conference urges the Government to issue the Licences for Playing Card Boards.



A dance programme was presented by Sri B. L. N. Prasad of Prasad Process Ltd., to the delegates of the All India Printers Conference at Chandamama Buildings

12. This Conference having considered carefully the economic conditions in which the printing industry in the country finds itself to-day and having studied the factors that have lead to the present situation recommends to the Centre as well as the State Governments to adopt the schedule of rates formulated by this Federation after due consideration of present copies and local conditions prevailing in the respective states, the basic minimum in the disposal of the Governmental works.

13. This conference urges the Government to include printing presses to get loan from Govt. Financial Credit Corporation, as other industries.

The following were elected as office bearers of the All India Federation of Master Printers for the Year 1955.

President: Sri S. Viswanathan (Central Art Press, Madras)

Vice President: Sri G. U. Mehta (Vakil & Sons, Bombay)

Hony. General Secretary: Sri S. N. Guha Ray (Sree Saraswathy Press Ltd., Calcutta).

Joint General Secretary: Sri S. C. Ghose (Calcutta Press Ltd., Calcutta).

Hony. Treasurer: Sri D. N. Dhar (Imperial Art College, Calcutta).

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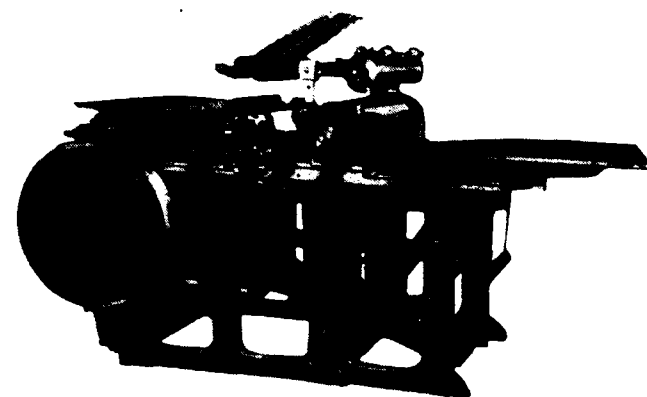
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Maximum Print area ... 24 1/2" x 18 1/2"
Floor space ... 50" x 34"
Height ... 45"
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Impressions per hour ... 2400
Horse Power Required 1 H.P.
Net weight ... 2465 lbs.
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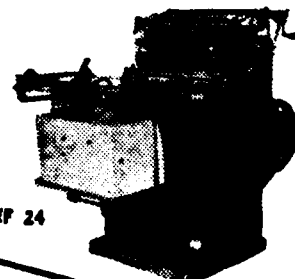
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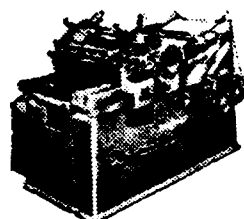
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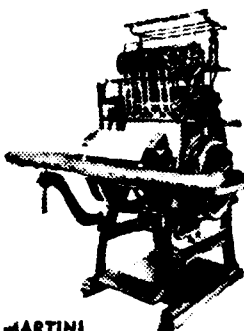
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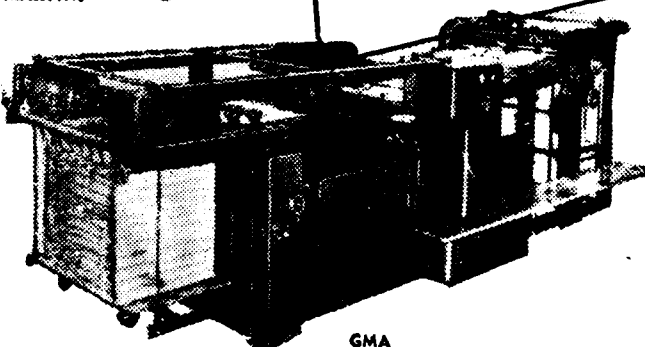
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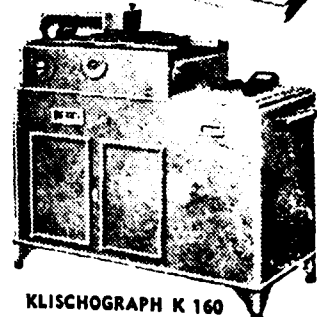
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Survey of Stalls at the Exhibition

(FROM OUR CORRESPONDENT)

Before I proceed to survey the various stalls, I should observe that the Printing Exhibition held at Madras was by far the best one had witnessed in this country. There were a large number of stalls and most of them were well decorated with a sense of colour harmony. The organisers of the exhibition should be congratulated for making excellent arrangements. I am presenting hereunder a brief survey of the important stalls at the Exhibition that attracted the attention of the delegates and visitors.

THE EAST ASIATIC CO., (INDIA) LTD.

This firm who are the distributors for the well-known Heidelberg machines should be congratulated for winning two trophies for running the best stall at the exhibition. They have not only won a trophy from the organisers but they also won the *Printindia* Trophy instituted this Year as an annual award. The Heidelberg machines available in the three sizes were exhibited by them. These machines which were shown in operation attracted thousands of visitors. Mr. Backhausen of East Asiatic Co., Ltd., along with Mr. Beckenbach the master technician who came from Heidelberg specially for the exhibition, took great trouble to explain the working of the machines. Their 'POLAR' cutting machine was also shown at the Exhibition.

As expected in printers' circles, brisk business was done by the East Asiatic Co., and many of the machines were sold off. At this Exhibition the famous Heidelberg Cylinder Automatic machine was purchased by a well known Madras

printer and this would naturally be the first Heidelberg Cylinder to be installed at Madras.

DWV - POLYGRAPH

Represented by
Indo-European Machinery Co., Ltd.

The well known D. W. V. unit of East Germany exhibited more than 20 machines in their stall. Their stall was the biggest at the Exhibition and as one entered and stood watching the many machines in operation it looked as though a huge factory was set up. Thousands of visitors flocked to the stall and it was a pleasure to watch the German delegates who were in charge of the machines respond to the many questions of the visitors in their poor English. Sri Bhandari, Sri Jain and Sri Lall of Indo-European Machinery Co. Ltd., did their utmost in showing the machines to the various delegates. The follow-

ing machines were exhibited at this huge D. W. V. stall :—

Two Revolution Press, model ZT II b; Flat Offset Press "Defa" model D III; Automatic Stop Cylinder Press, model M I; Small Rotary Offset Press, model R Z O I; Bronzing Machine, model B6 III 90; High Speed Single Colour Offset Press, model PEO 5; High Speed Automatic Printing Press "Gudrun" with front delivery; Step and Repeat Machine, model M 100 Kh; Continuous Three Knife Trimmer, model ADN; High Speed Guillotine PERFECTA APV 106; Wire Stitching Machine, for brochures and blocks. 5½ SS FF; Rapid Wire Stitching Machine 103; Semi-Automatic "Record" Folding Machine, 158 S 22.1.2; Thread Book Sewing Machines 39½; Rapid Wire Stitching Machine 110.02 - 70; Process Camera, model HOLUX - RECORD 1, 500 x 500 mm; Vacuum Printing Frama III, 800 x 1000 mm



Norton's stall at the Exhibition

FEBRUARY 1955



The crowded DWV stall where many machines were shown at the Exhibition

Vertilux Whirler 800 x 1000 mm; REGISTERLUX Shining-up Table 1000 x 1300 mm; Electric Drying Cupboard; Printing Arc Lamp; Numbering Boxes; Bookbinding, Embossing and Gilding Material; Seal Embossing Press, Paper Drilling Machine model PB.

INDO-EUROPEAN MACHINERY CO. LTD.

This well known firm of machinery distributors who are representing in India, the D. W. V. (Polygraph Export) unit also held a separate stall at the Exhibition. This separate stall gave them ample opportunities for discussing business and technical affairs with the delegates. The Indo-European Machinery Co., did a large amount of business at the Exhibition.

RAINBOW INK AND VARNISH MANUFACTURING CO. LTD.

This popular printing inks manufacturing firm of Bombay should be congratulated for holding a stall remarkable for its decoration and colour harmony. The various inks and varnishes manufactured by them for the various processes of printing were displayed. The walls of the stall were decorated with sample prints printed with their inks and these were collected by them from many parts of India.

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*May The All India Federation
of
Master Printers grow from Strength to Strength*

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Sri N. L. Contractor, Managing Director of the Company, personally spent a good deal of time helping the delegates in the solution of their ink problems. Special booklets were published by this firm and distributed freely to the visiting delegates. Most of the delegates were also lucky to receive a pack of the well known Popular Playing Cards. The Rainbow Stall which glowed in the rainbow colours attracted thousands of visitors and the firm received orders for large supplies of inks from many delegates. Sri E. J. Coelho, Business Manager of Rainbow Ink and Varnish Manufacturing Co. Ltd., assisted Sri N. L. Contractor in looking after the needs of the delegates.

THE MONOTYPE CORPORATION LTD.

This internationally famous firm of England exhibited five machines in their well arranged stall. The Monotype Keyboard, the Monotype Composition Caster, the Thompson Type Caster, Rotomaton



A group of visitors observing the working of the Heidelberg Cylinder at the beautiful stall of East Asiatic Co. (India) Ltd.

Offset Machine and Monotype Boston Stitcher were the machines exhibited by them.

Thousands of visitors were attracted to this stall. Mr. Ironside Radmore, Sri Mazumdar and Sri Masilamany, received the delegates and explained to them the

workings of the machines. The Rotomaton Offset Press which was priced cheap attracted the special attention of the visitors. This baby Offset affords great opportunities to any small printer to switch on and experiment in offset with a small capital investment. I also understand that the buyers of this machine can get the offset plates made for them through the Monotype Corporation from all its branches in India.

THE PRINTERS HOUSE LTD.

This firm of Delhi held quite a large stall at the Exhibition. Only three machines were shown at this stall and many other machines distributed by them in India were shown at the huge D. W. V. stall. The Martini book-sewing and Knotting machine, Varityper and some Composing Machines were shown at the stall. Particular mention should be made for the book-sewing machine which attracted a good deal of attention from the delegates and was immediately sold of. The Varityper awakened a tremendous interest in the delegates and the Governor of Madras when he had visited the



Sri Thacker of Max Designs, Bombay receiving the Prize from the Mayor of Madras.



(From left to right) Sri V. S. N. Murthi of Printindia, Sri H. M. Shah of Himatlal & Co., Bombay and his Company's branch manager at Madras.

Exhibition evinced keen interest in it. Sri K. D. Kohli, Managing Director of the firm, was present at the Exhibition and he was good enough to give the benefit of his mature knowledge and experience in the printing industry to the visitors. Sri S. N. Sahni, the Madras Manager welcomed the delegates. Very good business was done by this firm at the Exhibition.

HOOGHLY INK CO. LTD.,

Mr. John D. Barton, Manager of the Madras Hooghly Ink Factory should be congratulated for setting up a baby grinder in the stall. This gave the delegates an opportunity to see the printing ink, actually being made and the ink thus made was passed on to the Rotaprint Offset Machine on which printing was done. This was the only printing ink stall at the Exhibition that created ample noise and thereby succeeded in attracting good crowds. Mr. John D. Barton took a keen interest in advising the delegates on their multifarious ink problems.

WINSTONE INKS (INDIA) LTD.

This Bombay firm held a stall where the well known Winstone Inks manufactured at Bombay were shown. Mr. John O'Hara, the technical director of the firm was present at the stall throughout. Hundreds of delegates consulted him on various matters and he was largely useful to them. Mr. C. J. Ardeshir, Mg. Director of this firm was also present at the stall.

NORTON TYPE FOUNDRY

This type foundry of Madras exhibited a Japanese Stop Cylinder Press and some cutting and perforating machines. Sri Shanmugham assisted the delegates in every way and explained to them the usefulness of the machines which were available at economic prices.

SWADESHI TYPE FOUNDRY

This well known type foundry of Madras, which is more than 50 years old, exhibited type faces in all Indian languages manufactured by them. The stall was attractive. Sri Shanmughasundaram, Managing Partner of the type foundry took ample pains to explain to the dele-

gates the progress made in type casting.

THE STANDARD PRINTING MACHINERY CO.

In their neatly arranged stall at the Exhibition, they showed NEBIOLO Stop Cylinder Machine, Original Glockner Mercedes automatic, Perfecta Pivano-Johne Cutting machine and Fugita Japanese make English Styled Cylinder Press. Sri Sohanlal, Managing Director of the firm and Sri Baldevji, Managing partner of their Madras Office received the visitors and explained the workings of the machines satisfactorily.

MADRAS TYPE FOUNDRY

The Madras Type Foundry showed in their stall Cutting machines, Mitreing machines, Rim ming machines, Proof Presses etc.

CHARLES MORGAN & CO. LTD.

This firm already famous in the paper line exhibited "THE GLOCKNER" Automatic Cylinder Press. This machine is reported to give upto 4,000 impressions per hour.

MAHABEER & CO. LTD.

This firm of Delhi showed a double crown rebuilt rotary offset machine in their stall.

The highlight of the Exhibition was the collection of prints by various processes executed by the leading presses of India. It would be a delight to anyone to look at the many specimens of calendars, books, posters, labels, etc. After going through the prints exhibited there one should feel happy that the Indian printing has indeed progressed and our printing has come to a standard when it could compare well with the best produced in Western Countries.

There were some more stalls at the Exhibition but I am unable to write over them because of scarcity of space.

Winners of Prizes in the All India Printers Competition at Madras

Letter-press Printing :

BOOKS: Sree Saraswathy Press Ltd., Calcutta (1st prize); Sree Ramaprasad Press, Madras (2nd prize); **MAGAZINES:** Gossain and Company, Calcutta, (1st prize) The Commercial Printing Press, Bombay (2nd prize); **DIRECT MAIL PUBLICITY:** The Times of India Press, Bombay (1st prize); Max-Designs and Process Works, Ltd., Bombay (2nd prize); **CALENDARS:** The Times of India Press, Bombay (1st prize); Associated Printers (Madras) Ltd., Madras (2nd prize); **PICTURES:** Associated Printers (Madras) Ltd., Madras (1st prize); The Commercial Printing Press, Bombay (2nd prize); **LABELS:** Colour Craft, Bombay (1st prize); Gossain and Company Calcutta (2nd prize); **SHOWCARDS:** Sree Saraswathy Press

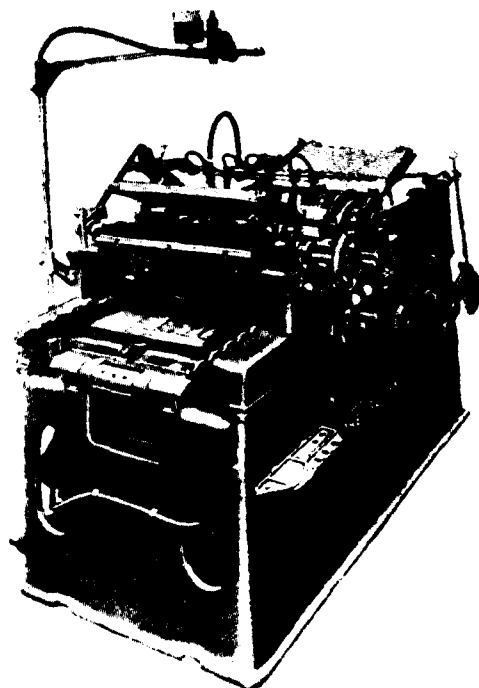
Ltd., Calcutta (1st prize); Gossain and Company, Calcutta (2nd prize); **DIE EMBOSING:** Hoe and Company, Madras (1st prize); Associated Printers (Madras) Ltd., Madras (2nd prize); **PROCESS BLOCKS:** Commercial Art Engravers, Ltd., Bombay (1st and 2nd prizes.)

Lithography Printing :

DIRECT MAIL PUBLICITY: The Times of India Press, Bombay (1st prize); **CALENDARS:** Sree Saraswathy Press Ltd., Calcutta (1st prize) The Eagle Lithographing Co., Ltd., Calcutta (2nd prize); **POSTERS:** Bombay Fine Art Offset Bombay (1st prize); Associated Printers (Madras) Ltd., Madras (2nd prize); **LABELS:** The Eagle Lithographing Co., Ltd., Calcutta (1st prize); Associated Printers (Madras) Ltd., Madras (2nd prize); **CARTONS AND PACKAGINGS:**

Max-Designs and Process Works, Ltd., Bombay (1st and 2nd prizes); **LETTERHEADS:** The Eagle Lithographing Co., Ltd., Calcutta, (1st and 2nd prizes); **SHOWCARDS:** the Imperial Art Cottage, Calcutta (1st prize); and the Karnodaya Litho Press, Bombay (2nd prize); **PICTURES:** The Eagle Lithographing Co., Ltd., Calcutta (1st prize); and the Shiv-Raj Fine Art Litho Works, Nagpur (2nd prize); Special prize for greeting folders : Colour Craft, Bombay (1st prize).

The prize for the best stall decorated in the Exhibition went to the East Asiatic Co., (India), Ltd. The *Printindia* trophy for the best stall was also given to Messrs. East Asiatic Company (India) Ltd. The prize for the best Indian made printing machinery went to R. V. Malai Engineering Works.



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FROM A DELEGATE'S CONFERENCE DIARY

By
"ROTOMAN"

The third session of the Printers Conference concluded gloriously. For over a week beginning with the 5th of February, the printers had a hectic time, meeting old friends and also making new ones. Anyone who had witnessed the All India Printers Conference at Madras would agree that more delegates were present at Madras than at Calcutta. This proves to a large extent that the All India Federation of Master Printers is gathering more and more strength with each passing year.

The Exhibition that was held at the Royapettah Y.M.C.A. grounds was undoubtedly by far the largest and the best one has ever witnessed in this country. As a friend from Calcutta, who had visited the DRUPA told me: "It looks like a wing of DRUPA." The Exhibition at Madras grew so much in every direction that the last Exhibition I had seen at Calcutta paled into insignificance.

A large amount of credit is due to Sri S. Viswanathan, the dynamic little giant of Madras. Sri Viswanathan is the Secretary of The Madras Printers' and Lithographers' Association who organised the Conference. He is the proprietor of the well known Central Art Press and his headquarters "ACTON LODGE" is the very symbol of mobility and dynamism. Sri Viswanathan bravely shouldered a Herculean task and like the legendary Hercules fulfilled it in every way. He verily deserves the compliments of one and all. A polished speaker and tactful organiser he is very much modest by nature. Now he is the President of the All India Federation of Master printers.

It is a pleasure for me to meet my friend Sri N. K. Gossain, head of the well known Calcutta printing institution, Gossain & Co. Perhaps his company represents the highest that letterpress could achieve in India, and yet Sri Gossain keeps alive in him a thirst for acquiring further knowledge of printing to break his own unbroken standards.

The most spectacular function which all the delegates greatly enjoyed happened to be the garden party and light entertainment offered to the delegates by the Prasad Process Ltd., at Chandamama Buildings. The "Chandamama" children's monthly magazine, published in about seven Indian languages and selling more than a lakh of copies in all the editions put together, is a glowing tribute to the genius of the two individuals Sri Nagi Reddy and Sri

Chakrapani. These two have worked in unison for over many years now and their genius has resulted not only in the setting up of large scale printing establishments and publications, but also fostered efficient and decent film production. Sri Nagi Reddy and Sri Chakrapani are mainly responsible for the growth and development of the Vauhini Studios, perhaps one of the best equipped studios in India. It may be recalled here that a film produced by them known as "PATHALA BHAIRAVI" was chosen from the south and was exhibited at the International Film Festival held in India. On a beautiful stage and with all the inevitable colour effects, excellent variety entertainment of dance and music was bountifully presented to the delegates of the Conference and the delegates would take a long time to forget this function.



Sri K. C. Raman of The Times of India Press, Bombay receiving the trophy from the Mayor of Madras

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Sri Bimal Chatterjee of Amrita Bazaar Patrika (2nd from left) with Sri Nagi Reddy, Sri Prasad, Sri Chakrapani and other delegates at Chandamama Buildings

Sri K. C. Raman of the Times of India has imbibed the Rotogravure activity and it is a delight to meet and talk to him. Holding a very responsible post in Times of India

Press of Bombay, he was very much sought after by many printers for technical advice.

Sri Bimal Chatterjee of the Amrita Bazaar Patrika with his

sizzling smile was ever welcomed at every gathering. An expert in the erection and maintenance of rotary machines, Sri Bimal is an asset to the printing industry in India.

Sri S. S. Vasani, the Chairman of the reception committee, is a printer cum publisher cum film magnate. Perhaps this is an unusual phenomenon in the North. As the producer of "CHANDRALEKHA" in Hindi which proved to be a landmark in the annals of the Indian Film Industry, Sri Vasani is known all over India. As the editor and printer of the well known "ANANDA VIKATAN" weekly in Tamil, his name has become a by-word in every home of Tamilnad. A man of outstanding abilities, Sri Vasani is an extremely modest man, whose simplicity of dress fills everyone with a feeling of adoration. He showed his devotional picture "AVVAIYAR" to the delegates.

Sri G. U. Mehta of Vakil and Sons, Bombay, elected as the Vice-

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EXHIBITED AT

ALL INDIA PRINTERS' CONFERENCE & EXHIBITION 1955

(V. M. C. A. Grounds, Royapettah) Organised by Madras Printers' & Lithographers' Association

President of the All India Federation of Master Printers, was complimented by one and all. Tiny in stature, Sri Mehta has a deep knowledge of the problems of the Indian Printing Industry.

Mr. W. Backhausen of the East Asiatic Co., (India) Ltd., Bombay, should be congratulated for holding the best stall which has the credit of winning two trophies. In addition to winning the organisers trophy for the best stall, East Asiatic Co., also bagged the *Printindia* Trophy, instituted as an annual award for the best stall at the exhibition only from this year. Mr. Backhausen is a great master printer and technician and it was a pleasure to watch him operating the Heidelberg machines by himself at the stall and explaining the implications lucidly.

Sri K. D. Kohli, Managing Director of the Printers House Ltd., was fortunately present at the



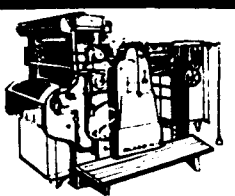
Sri Poonawala receiving the prize from the Mayor of Madras for best process engraving work

Madras Conference. The credit for building up the Printers House Ltd., as one of the leading printing machinery distributors in this country goes to Sri Kohli. From rotaries to roller composition can be supplied by the Printers House Ltd. Smartly dressed and crisp in speech Sri Kohli is conspicuous in any society.

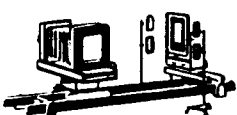
I have given above brief sketches about some of the interesting personalities I met at the Conference and the Exhibition. There were many other people I met who are no less interesting, but I am forced to withhold writing about them, because of limited space.

Great in Service
though not in Age

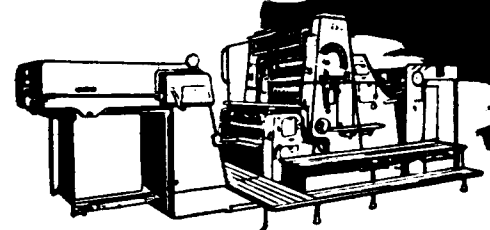
OFFSET PRINTERS



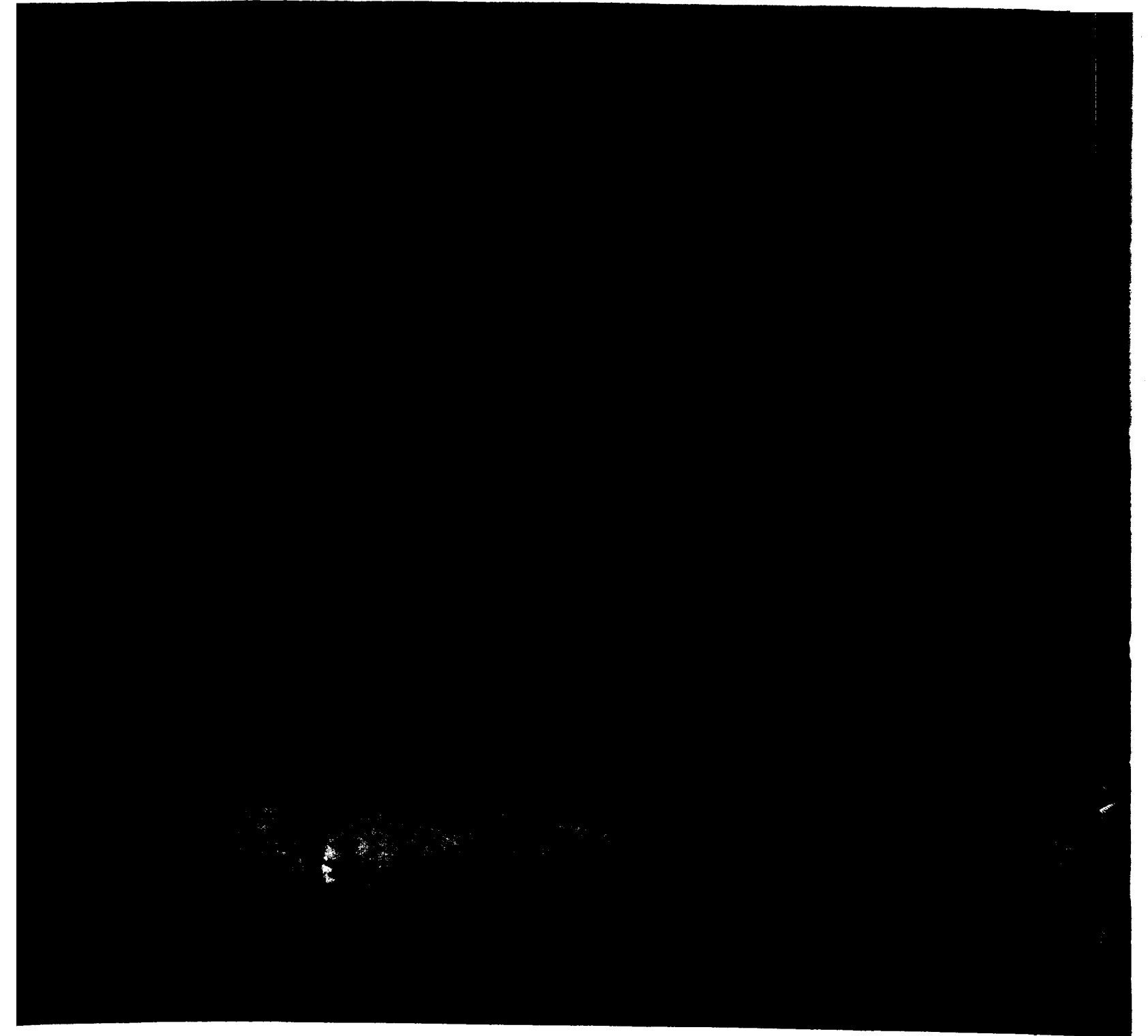
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Originals for Lithographic Reproduction

By

Sri Bimal C. DATTA B.A. (Econ.) Dip. Tech. (Leeds) F.R.G.S., A.R.P.S., (London).

Manager, Map Reproduction Offices, Survey of India, Delegate to the 3rd All India Printers Conference, Madras.

Not all good pictures are suitable for reproduction. This circumstance is the cause of much unwarranted misunderstanding between lithographers and their customers. A photograph which is made for exhibition or to gratify the photographer or the purchaser is an end in itself; it is required only to be a good picture and it may be judged accordingly. A photograph which is designed to serve as copy for reproduction is not in itself an end but merely a beginning; its pictorial quality is only a partial measure of its merit. Its potential for transmitting effectiveness to the reproductions that are made from it is the index of its worth.

The translation of the original tones into screened tones alters their values. Pure white highlights in photographic copy acquire a pattern of tiny dots in a screened reproduction, and suffer a loss of whiteness as a result. Similarly solid blacks suffer a loss of density and dark middle tones which are soft in the photographic copy lose a measure of smoothness when broken up by the screen in a plate.

It is my purpose to define the characteristics that make a picture capable of effective reproduction so that users of lithography can plan for, and secure, reproductive copy that will permit lithographers to apply craftsmanship with effect.

We shall also try to provide a basis for a scheme and guidance for the artists and draftsmen and to point out some important aspects of the original drawing or photograph suited for photolithographic reproduction.

LINE ORIGINALS

Line drawings should be made on strong smooth surfaced paper or card of good white colour; "Bristol board" is suitable for the purpose. A rough surfaced paper is not welcomed; here the lines tend to be broken in the reproduction. The lines must be sharply defined and all drawn in Indian black ink and in no case should any part be weak in colour i. e. no greys should exist. Alterations are made preferably on white opaque paper which is pasted over the part to be altered. The well known method of drawing in line in a bromide print with waterproof ink and bleaching out the photographic image is sometimes a valuable method of preparing a line original. Pasting is likely to

cause distortion, except on metal mounted drawing paper.

It is always desirable to draw the original to a scale of one and a half times larger than the size required in the finished print.

Originals drawn for "Reversal" processes, such as 'Vandyke' or 'Deep-etched' on thin white, translucent paper that is reasonably free from grain, can be often reproduced on a litho plate without the intervention of the glass or celluloid transparencies. Here the lines must be firm and opaque, and the addition of a little gamboge water colour or yellow dye, such as 'Auramine', to the ink, will be found helpful in increasing the opacity of the ink to actinic light. It may be mentioned here that the use of matt celluloid,



Sri Kamaraj Nadar, Chief Minister of Madras, addressing the delegates at the prize distribution function at the Exhibition



Sri Temporau chatting with Mr. Fred Wichmann of Faber & Schleicher West Germany at the Exhibition

such as 'Astrafol', 'Kodatrace' are good substances for line drawings, the latter being non-distorting.

CONTINUOUS-TONE ORIGINALS

Continuous-tone originals include wash drawings, oil paintings, photo-

graphic prints and transparencies. The first point to notice is that screen photo-litho impressions are generally much softer than half-tone or gravure proofs. To sum up in one sentence, let it be said that an original of contrast type is best

suited. In order to increase this contrasting effect to the possible extent, it is usual to work with highlight transparencies so that no dot is printed in the extreme highlights of the subject, while the deep shadows are generally solid or nearly so.

So far as a photographic print is concerned, a glazed bromide print having clean white highlights and full black shadows having a density range slightly below 1.5 is best suited for photo-litho. This type of original is obtained best by a normal technique with normal paper showing a suitable density range. Brown toned bromide prints and prints on rough paper do not give good results.

Wash drawings made specially for reproduction may be executed with the pigments for air-brush work, namely, a good "unfixed" black mixed in varying proportions with Chinese white, a process white

(Continued on page 44)

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Garden Party at Chandamama Bldgs.

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**Originals for Lithographic
Reproduction**
(Continued from page 42)

being used for the highlights. The drawing should be made preferably on white card having a reasonably smooth surface. Another medium for original work is flatted oil colour consisting of ivory black blended with a little sepia and used with flake white.

TYPED ORIGINALS

Photography is necessary when the original is on non-transparent paper or whenever the scale of the printed map etc., is different from that of the original. The typing must be black, clean and even, i.e., not faint or with too much density nor should some letters be black and others grey. No erasing to be done on typed sheets. Corrections should be retyped on slips and then pasted in their correct places. A good sharp carbon copy on thin paper with a new sheet of carbon paper gives a very suitable original.

When maps are to be prepared showing progress etc., of various undertakings etc., it is advisable to consult the Survey of India Department for the most suitable and up-to-date map to be used as the basic map. If often happens that departments spend months compiling certain information on a superseded edition of a map or on a map the new edition of which is under publication, and when their work is submitted for printing, the corrections to the basic map are so numerous that the whole work has



A Group of visitors at the stall of the Printers House Ltd., watching a Machine working

to be transferred to the new map in the Survey Office, thus causing a lot of waste of time and money. In referring such cases to Survey

Offices the approximate size of the publication and scale of the map required should be quoted.

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The Paper Industry in India

By
SRI H. M. SHAH

In this brief article Sri Shah advises the Indian Paper Mills to give more attention to quality rather than quantity

Having carefully studied the paper industry and paper consumption in India, I am of the opinion that in spite of the extensive literacy campaign, Indian paper mills are experiencing difficulty in the sale of their products.

It is a well-known fact that the consumption of paper in India has gone up considerably during the last few years. Then why do the Indian paper industry suffer for want of sufficient demand for indigenous production? On a close study I found that the printing industry in India has lately made rapid progress, and this is proved by the fact that the Indian printers are importing the latest models of printing machinery and thereby keeping their standard at the same level as in the European countries.

Such new types of printing machinery, however, require a very high grade of paper, technically suitable for printing on such machinery. Unfortunately, the

various qualities of paper manufactured in India are not suitable for such precision printing, according to the experience of the Indian printers. In view of this fact, the printers have no alternative but to fall back on the much superior imported paper.

It is therefore upto the paper mills in India to exercise proper care in the manufacture of paper so that their products are technically suitable for use on the latest machinery and in no way inferior to imported qualities. If the mills produce such qualities as are required by printers, there is no reason why printers should not use indigenous production and discontinue the use of imported qualities. It would therefore be most advisable for the Indian mills to give more attention to quality than to quantity.

The mills by producing such high grade papers can at the same time help the nation also, as a lot of

foreign exchange, which at present is being utilized for the import of certain qualities of paper, could be saved. In addition to this, the consumers too will benefit as they will be able to obtain their requirements at a lower cost.

I again express the hope that the Indian paper manufacturers will pay due attention to the manufacture of better qualities, which will solve many existing problems, such as, printers' requirements of high grade papers, low cost of printed material and equitable distribution of the indigenous production without any unfair competition.

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PRINTINDIA TROPHY GOES TO THE EAST ASIATIC CO., (INDIA) LTD.



Sri V. M. Philip, President of the Madras Printers' and Lithographers' Association presenting the Printindia Trophy to Mr. W. Backhausen of The East Asiatic Company (India) Ltd.

Kubera Enterprises Ltd., the publishers of the printing trade magazine PRINTINDIA, have pleasure to announce that they have instituted a trophy known as the PRINTINDIA TROPHY which will be presented every year to the best stall at the exhibition organized each year in connection with the All India Printers' Conference.

This year the PRINTINDIA TROPHY was presented to The East Asiatic Co. (India) Ltd., for their stall at the Madras Exhibition which was adjudged the best. Incidentally the credit goes to The East Asiatic Co., for being the first firm in this country that has won 2 trophies for holding the best stall.

From Our London Correspondent

F. & D. BROWNLEE

The age of mechanisation in screen printing, which is attracting an increasing market for high quality work, can now be said to have set in, and there are a number of screen printing machines available in several countries. Most screen printers are still new to mechanisation, though, and would welcome a machine which does not require a specially trained operator, and upon which the manual printer can immediately increase his daily production.

Specially designed for this purpose is the new "Monarch Minor", produced by Screen Printing Machinery Ltd. of London, which is easy to use and simple to maintain, and only occupies a floor space of about 5' 6" x 7' 0", with a maximum printing size of 20" x 25" (the printed area covered).

Although the machine is equipped with an electrically-operated vacuum bed, it runs very quietly, and the harmonic movement eliminates vibration. The feed and delivery tables, which fold downwards to save space when the machine is not in use, have been specially designed to facilitate working operations. Feeding to register is also facilitated by the provision of a vacuum bed which moves towards the operator as the screen frame rises, returning to the printing position as the screen is lowered. These actions, the rising and falling of the screen frame, and the movement of the bed to facilitate feeding, are linked with one another and both are controlled by a foot pedal which leaves both hands free for taking off and feeding.

The screen frame is easily removed and is equipped with an adjustable tension device together with built-in universal register adjusters. As stated, jobs with printing areas of 20" x 25" can be processed, but to save time and effort on small jobs, the length of travel of the squeegee can be reduced to as little as 10".

The production boost makes use of 2-way printing with a double-blade squeegee, both pressure and blade-angle being fully adjustable, set in a roller-tracked carriage and having a device that automatically reverses the position of the squeegee blade at the end of each stroke, making it ready for the next print.

The vacuum bed will grip a 20" x 20" and the vacuum is broken just before the printed sheet is to be taken off. Because the

vacuum does not come into operation again until the bed begins to move away from the feed position, feeding to register is done without any sheet-snatch. A useful feature of the machine is that the frame carriage can be raised to a vertical position for easier examination of screen and stencils, and for wiping up a screen after cleaning.

Another development in screen printing technique relates to drying, which is one of the most serious matters the printer has to contend with. Super Rax Ltd. have evolved a new design of rack which embodies a number of refinements to facilitate the production cycle in the printing shop. The new model is of heavier construction than previous models in this range, being made entirely of metal, with channel form trays 30" x 44" in



Mr. Ardeschier and Mr. O'Hara of Winstone India Ltd. Photographed in their stall with some delegates at the Exhibition

size. The open mesh on each tray has been reduced from 15" x 11" to 6½"x8", and the chassis is constructed of double angle iron with a removable metal covering for the springs. A prominent feature of this new model is the abolition of side standards, thus allowing "wet" copy to be swung straight on to the rack from the printing table. Also a new type tension spring gives a snap action to the trays, and the racks are mounted on 3" diameter rubber tyred castors for smooth rolling.

Designed to satisfy the need for a fast running newspaper rotary press as an alternative to the very high speeds demanded by the national dailies is the "Standard" press of R. Hoe & Crabtree Ltd., (London). Like the "Supercolour Press", it is built with arch type units, having solid steel cylinders and a similar inking machine.

The "Standard" has a maximum running speed of 40,000 c.p.h.

and incorporates all the developments of many years of experience, characteristic features being reliability and low maintenance costs. The type and impression cylinders are mounted in heavy duty roller bearings of special design to ensure freedom from vibration and stagger at high speeds. The cylinders are disposed to give a convenient height for plating and changing blankets when required. The accessibility of the units for leading sheets, inserting and cleaning rollers is greatly improved by the absence of the usual vertical shaft driving the units.

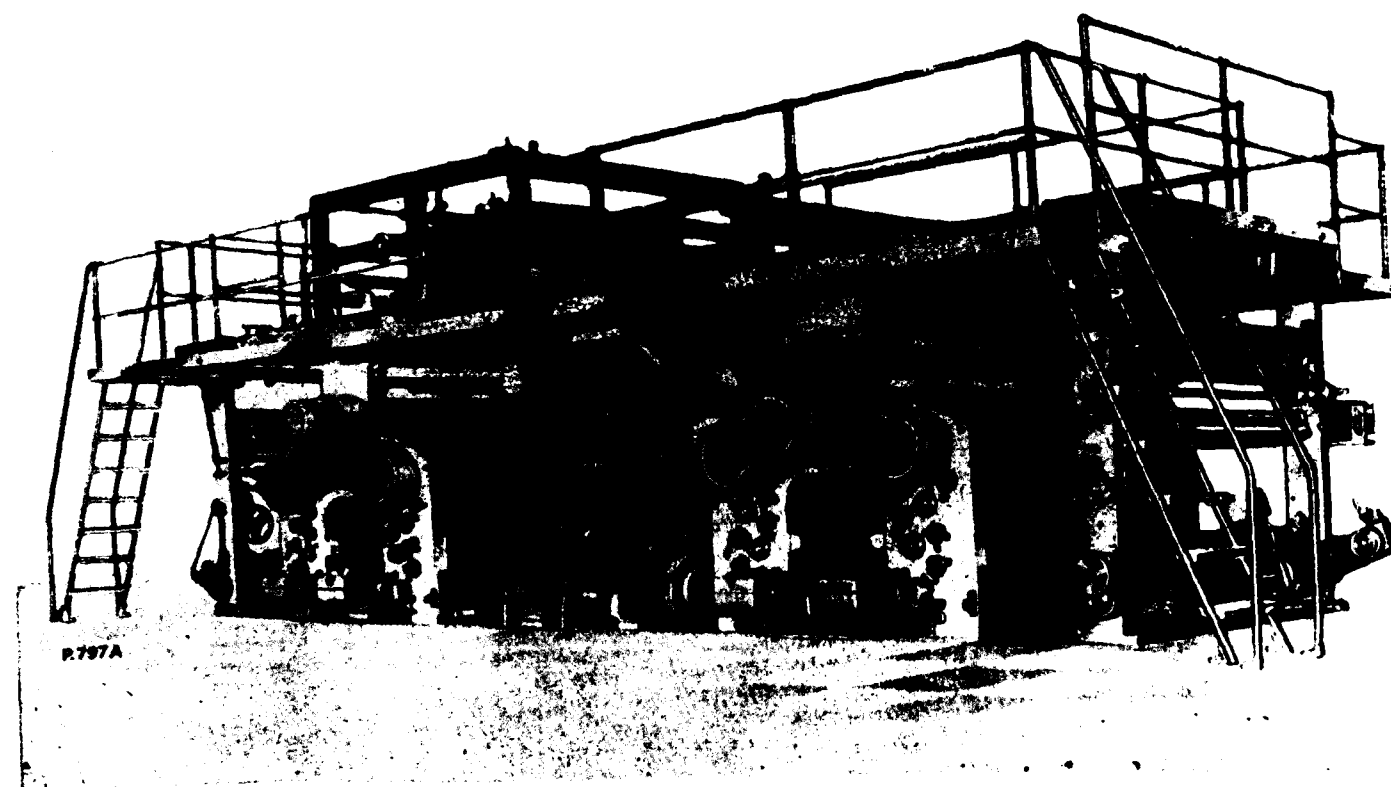
The inking system is of the most modern type with three distribution drums to spread the ink. The two forme rollers are of unequal diameters to eliminate any tendency to repeat the type matter, and all the rubber-covered inking rollers run in anti-friction bearings and are carried in roller sockets, enabling them to be thrown out of

contact or adjusted outside the press frames.

The adjustment of ink by the automatic ink pump is extremely simple and great advantages are possible from saving of ink and general cleanliness. This type of pump incorporates many years of experience of running and manufacture and is highly satisfactory in all respects. Colour cylinders can be built into the printing units to enable additional colour or multi-colour to be printed in conjunction with the standard black printing.

The press can be arranged as a floor type machine, that is units, folders and reelstands all on floor level, or as a line type press with the units and folders in line carried on a sub-structure with the reelstands underneath. Various driving arrangements are available, including group motors situated in a pit below the bedrail lever, or overhead motors carried on stretchers between the unit rails. The folders,

(Continued on page 56)



Crabtree "Standard" Rotary Newspaper Printing Press

News and Views

FEDERATION PRESIDENT ELECTED

A meeting of the Madras Printers' & Lithographers' Association was held at 'Acton Lodge', 11 McNichol Road, Chetput, Madras, on Wednesday the 16th February 1955 when they elected Mr. S. Viswanathan, Proprietor of the Central Art Press, Madras, and Secretary of the Madras Printers' & Lithographers' Association, as the President of the All India Federation of Master Printers. Mr. V. M. Philip, President of the Association, congratulated Mr. S. Viswanathan on his election.

Mr. S. Viswanathan in thanking the members for the honour they had conferred on him by electing him to this high post said that Madras was making history again by this election since by doing so, they had chosen as the President of the All India Federation of Master Printers a very small printer like him. He hoped that with the co-operation of the members of the Association and of the Office-bearers of the All India Federation of Master Printers, he would be able to discharge the duties that would evolve on him satisfactorily.

The meeting elected the following 10 members to represent the Association at the General Body of the All India Federation of Master Printers, and the following five among themselves to the Governing Council:

GENERAL BODY

Messrs. V. M. Philip, (The Diocesan Press), M. K. Krishnamurthi,

(The Photo Litho Press Ltd.), A. Sendall, (The Associated Printers Madras, Ltd.), V. Satrugnan, (The P. A. S. Press), R. Venkateswaran, (The United Printers' Syndicate Ltd.), M. R. Appadurai, (The Premier Art Press), T. V. Ramnath, (Ramanath Press), T. Shanmugasundaram, (Swadesi Type Foundry), A. M. Ponnappan, (Nelson & Co.), D. Ratnavelu, (Sri Bharati Press).



Sri S. Viswanathan

GOVERNING COUNCIL

Messrs. V. M. Philip, (The Diocesan Press), A. M. Ponnappan, (Nelson & Co.), V. Satrugnan, (The P. A. S. Press), R. Venkateswaran, (The United Printers' Syndicate Ltd.), M. K. Krishnamurthi, (The Photo Litho Press Ltd.).

SHALIMAR'S CALENDAR

During the All India Printers Conference, held recently in Madras the Shalimar Paint 1955 Calendar, printed by Messrs Sree Saraswaty Press Ltd., Calcutta, was awarded the First Prize for calendars printed by lithography.

Continuing the "Glory of Colour in India" picture series, a unique feature of this calendar was that although it was only a single sheet calendar it carried a picture on both sides with the tear off date pads for January to June related to the first picture and the remaining six months' date sheets to the picture on the reverse. Painted by Sri B. L. Mukherjee, the popular Bengal artist, both pictures showed views of the Kanchenjunga range, one from Sandukphu, Darjeeling, at sunset, the other from Tiger Hill, Darjeeling, at dawn.

Certainly great credit is due to the printer as thirteen impressions were required on one sheet of paper to produce these two pictures. The calendar itself has proved extremely popular amongst business contacts, Indian and European and in the bazaar.

RAINBOW'S SCHOLARSHIP & GOLD MEDAL

Sri N. L. Contractor, Managing Director of the Rainbow Ink and Varnish Manufacturing Co. Ltd., of Bombay in a letter addressed to the Principal, Central polytechnic, Madras-1, writes, "We have much



A Group of visitors at the Indo-European Stall at the Exhibition photographed with Sri Bhandari and Sri Jain

pleasure in offering a gold medal in the name of our firm which will be known as the Rainbow Gold Medal for the student who stands first in the L.P.T. final examination based on the highest marks. We have also much pleasure in offering a scholarship of Rs. 101 - a year to the student who ranks first in the second year full time course. This amount would be paid to the student through you at the commencement of his final year course."

The students of the Polytechnic should be happy to know of this award from the Managing Director of the Rainbow Ink and Varnish Manufacturing Co. Ltd., Bombay. We hope all other firms will follow the lead given by Sri N. L. Contractor.

SRI B. NAGI REDDY'S WELCOME ADDRESS

The delegates to the third session of the All India Printers' Conference and Exhibition were presented light entertainment after a garden party given by Sri B. L. N. Prasad, Managing Director of Prasad Process Ltd., at Chandamama Buildings.

Sri B. Nagi Reddy welcoming the delegates on behalf of the Prasad Process Ltd., said:

"Brother Printers & Gentlemen:

"On behalf of Prasad Process Ltd., I have great pleasure in welcoming you all to our midst. We feel grateful to you for so kindly

responding to our humble invitation to be present at this gathering, in spite of your other engagements. This is indeed a happy occasion for Prasad Process Ltd., and I must confess to a feeling of peculiar pleasure in the distinguished company of eminent printers.

"Though we belong to different parts of the world, yet there is a fellow feeling in us which unites printer and printer, and of course all those in the allied trades.

"Printing today has become very much modernised and has come under the influence of mechanization. New Processes have been evolved to cater to the artistic and aesthetic sense. But in spite of the advances made in the mechanical field, printing still remains an art and a great art. It is this aspect that distinguishes the printing worker and the printing trade from others. When one develops a love to it, one works on it for the sheer pleasure of it. I may even say that the business aspect of it is only secondary to the devotee of this art, and he feels



The Bombay group of delegates photographed at the Museum Theatre with Sri Viswanathan of Madras

Just like the painter or the sculptor feels when he is engrossed in creating a piece of art in two or three dimensions.

"As units representing the printing trade in India, we have great responsibilities. We have yet to make great strides to come into line with the advanced countries of the world. Let us hope our more experienced brother printers from abroad will give us the benefit of their mature wisdom, seasoned experience and practical skill of the trade, and it is up to us to carry on in a manner worthy of the high traditions of this industry.

"May I once again express to you, gentlemen, our warm feelings of gratitude for your presence here this evening."

THE PRINTERS HOUSE LIMITED

THE PRINTERS HOUSE LIMITED is one of the leading distributors of Printing Machinery in India. Started in the year 1946, this Company represents more than 200 manufacturers from all over the world. With Mr. K.D. Kohli at the helm of affairs as the Managing Director and Mr. J. N. Sahni as the Chairman of the Printers House

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Sri Sahni with his German friend taking a look at the Vacuum Printing Frame distributed in India by the Printers House Ltd.

Ltd., it has risen to the top during the course of the last 10 years.

Mr. Kohli and Mr. Sahni were associated for over a long time with the "Hindustan Times", the well-known Daily Newspaper of Delhi. They left the "Hindustan Times" in 1932 and started the "National Call" at Delhi which after 14 years of public service became the "Indian News Chronicle" and later the "Indian Express." At about the same time the Printers House Ltd., took birth. During the last decade of its existence, the Printers House Ltd., imported into India millions worth of Machinery and supplied it to various parties in this country. Most of the front rank newspapers in India, Ceylon and Pakistan are being printed today on rotaries supplied by the Printers House and erected and installed by their Engineers. They were also virtual pioneers in popularising offset equipment. They have made a remarkable name for their after sale service and all the parties to whom they supplied machinery are entirely satisfied. The Printers House Ltd.,

maintains a team of energetic Foreign Engineers, Indian Engineers and Technicians, who are ever-ready to solve the Press Room problems of the Indian Printers.

The Printers House Ltd., are the distributors in India for GOSS DUPLEX Rotaries, HARRIS and M.A.N. Offset presses and HARRIS Cutting Machines, ATF equipment, SOAG cutting machines, G. M. A. and MERCEDES Presses, KOENIG & BAUER Rotaries, VARI-TYPER OZALIDS etc. They are well-

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The stall of the Printers House Ltd., at the Exhibition. Sri Patre and Sherma, technicians of the firm are seen in this picture with the visitors by the book sewing machine

known all over the country and they can supply anything and everything in the Printing and Allied industries from Roller Composition to Rotary Presses, virtually at the doors of printers through their branches and representatives distributed all over the sub-continent.

ANDHRA PRINTERS' UNION

The Printing Press (Proprietors) Union met at Kurnool on 6th Febr-

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- ★ TWO REVOLUTION MACHINES
- ★ MAZINE ROTARY

CONTACT
THE
United Printers' Syndicate Ltd.
(IMPORT DEPT.)
Phone : 4730
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(From L to R) Sri Temporau of Printindia, Sri G. V. G. Krishna, and Sri S. Bhandari of Indo-European at the Indo-European stall in the exhibition

dent, Sri M. Hanumantha Rao as Vice-President, Sri V. S. Janakiram as Secretary, Sri M. C. Krishna and Sri S. Mahboob as Joint Secretaries and Sri R. Jambuliah as Treasurer.

OBITUARY

DEATH OF JUSTICE RAJADHYAKSHA

Sri Justice Rajadhyaksha, Judge of Bombay High Court, died of heart attack on 9th February morning at his residence in Bombay. He was 58.

Sri Rajadhyaksha presided over the Indian Press Commission, which recently submitted its report to the Government.

SRI K. B. JOSHI

Sri K. B. Joshi, Technical Adviser for the hand-made paper industry with the All India Khadi and village industries Board died on the night of February 5th due to heart attack. Sri Joshi who was 63, was adviser to Mahatma Gandhi on matters connected with hand-made paper industry.

uary. Sri D. Venkateswarlu presided. The meeting resolved to convene a Conference of local Presses shortly and to invite Sri Amalanathan, Superintendent of the Andhra Government Press to preside over the Conference.

An executive body was formed with Sri D. Venkateswarlu as Presi-

PRESSROOM PROBLEMS SOLVED

By
Graphicus

In these pages "GRAPHICUS" an expert on the printing and allied industries solves month by month the Pressroom problems of the printers. All questions should be addressed to "GRAPHICUS" C/o PRINTINDIA

16. Q. In our Press we are doing only letterpress printing. I will be very thankful if you kindly let me know the advantages of photogravure and offset lithography over letterpress printing.

A. To say any one of the various processes of printing have any advantages generally over another is quite impossible since each one is suited to its own individual type of work. Letterpress is the best for ordinary book-work and any similar work involving predominant use of type matter, jobbing work, short runs especially where colour work is concerned and the printing area small. Offset lithography lends itself best to multicolour poster work, calendar printing and coloured labels where the quantities are large; it can also be adapted for book printing and is especially useful where reprints may be necessary, since filing of negatives is much easier and more economical than keeping type formes standing. Photogravure is mainly adopted to reel printing on the full rotary principle and is not recommended as means of printing for the normal printer. It is used mainly for printing periodicals which have very large circulations. Since there is and always will be plenty of scope for letterpress printing I would advise any one who has a well established letterpress plant to develop and perfect his organisation along these lines and not to step out into unfamiliar fields.

17. Q. I am a small mofussil printer. But because of my interest in the field of printing I managed to buy some automatic machines. I find that the colour work executed on these automatics at my Press is not as good as the printing obtained on the same

machines in the city Presses. I use good inks and I also take care of the paper. Will you please let me know why I am unable to improve my standard of printing and suggest to me some ways by which I can improve it?

A. There can be a host of reasons why you do not get the quality of work you require. It may be that your machines are not set correctly or that you are running your machines too fast, perhaps if you send me a selection of printed sheets I may be able to advise you. The best advice I can give however is that you call in a first class printing machine mechanic, preferably from the agents from whom the machines were purchased, to see if the fault lies with the machine or in the setting thereof.

18. Q. Please let me know the methods I should adopt with respect to storing and preserving used blocks. We have in our Press hundreds of blocks but most of them are getting spoiled.

A. Blocks are best preserved by removing them from their mounts especially if these are wood. Grease them well, wrap them in paper, stick a print of the block on the outside of the wrapping and file away in a regular order on flat shelves recording where they can be found by some sort of cross index system.

19. Q. I recently read an article in the PRINTINDIA magazine about plastic binding. I am interested in buying the machines. Will you please advise me to

go in for these plastic binding machines and also enlighten me whether there are good commercial prospects for this kind of binding system ?

- A. When buying this sort of equipment it is essential for the printer to know how best this type of binding can be used and to be able to advise and persuade his customers to adopt it where suitable. It is also very necessary to ascertain if continued supplies of the specialised plastic required for the process is in regular supply and that you will not possibly be left with the machines and no raw materials to use on them.
20. Q. (a) We have been in the letterpress field for over many years now. Now we are very keen to switch on to offset but we are afraid to enter that line till we acquire good experience in that field. We are ready to invest a small amount to buy a small machine to give us the opportunity of experimenting. Can you kindly suggest to us a small offset, cheap and effective which we can buy in the market so that we may fulfil our desire of changing over to offset printing? (b) Our Press has been started 10 years ago. We have been all along setting our types by the hand. We have made a good name and we find a large amount of book-work coming to us. The main languages of the book-work are English, Hindi and Bengali. We have now decided to go in for type-setting machines. We read a great deal in the magazines about lino machines, mono machines, intertypes, etc. We are unable to decide for ourselves which particular machine will suit our requirements. We therefore request you to explain to us about mechanical type-setting and also suggest to us a good machine suitable to us for the execution of our book work in English, Hindi and Bengali.

A. These two questions put me in the same predicament. Unfortunately I cannot give

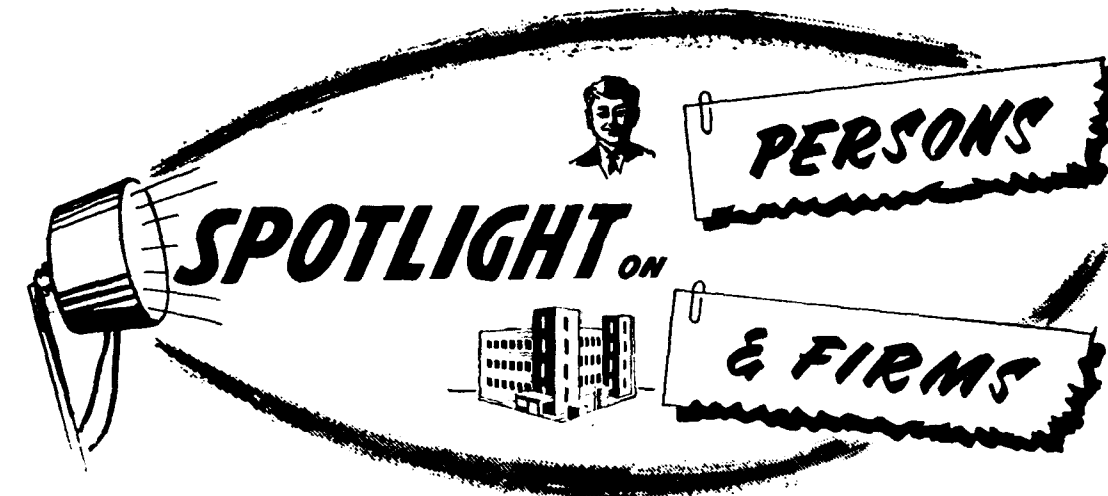
preference to or advertisement for any particular machine or manufacturer but I am sure that after reading this question some enterprising persons will contact our Editor requesting him to forward to you details of their own particular machines and their various assets.

21. Q. I am an offset printer. My press is usually printing beedi labels. I recently happened to go to Bombay and somebody advised me to go in for a step and repeat machine. I hear that this machine will be very useful to me. Please let me know what is a step and repeat machine and whether it will be useful to me in the printing of beedi labels.

A. If your Press is regularly engaged in the Printing of labels a step and repeat machine would undoubtedly be very useful to you and save a lot of time in preparing the plates. The machine prints down an individual image from a single original at predetermined intervals across and down the offset plate and ensures hairline register of images where more than one colour is used.

22. Q. We are running a weekly magazine in vernacular and our magazine is amply illustrated. Every week we spend a lot of money on making blocks. We recently read in a trade magazine about a new machine called Scan—a—graver which we understand makes blocks automatically. Please let us know whether this machine will suit us to make our blocks.

A. The Scan—a—graver is an expensive machine. The best advice I can give you is to obtain a quotation for same, ascertain how much per square inch the blocks it produces would cost you in materials, labour, power maintenance and depreciation and compare this with the present annual cost of your blocks. By comparing these figures you will easily be able to decide if the plant would be likely to prove economical.



Mr. Jakob Beckenbach was born in Heidelberg in 1910 and is truly a genuine 'Heidelberger'. He began his career as a letterpress apprentice and later attended courses in trade and vocational schools in order to broaden his knowledge of printing. He worked in various print shops in Germany and Switzerland and in 1934, he returned to Heidelberg to take over new duties in the Heidelberg's demonstration print shop.

At that time, the 'Heidelberg News' was already being published regularly and Mr. Beckenbach was one of the printers in charge of its production. Along with these activities, he was also responsible for the initial testing of new developments on the Heidelberg Platen Presses. His efforts have contributed greatly to the reputation which the 'Heidelberg' now



Mr. Jakob Beckenbach

enjoys. From the viewpoint of printing technique, Mr. Beckenbach also contributed towards the development of 'Original Heidelberg' Cylinder. He belongs to the select group of veteran printers in the Heidelberg Firm, who have known the now modern Original Heidelberg from its very beginning.

Because of his great printing knowledge and his vast experience, Mr. Beckenbach has been called upon to travel to nearly all countries of the European Continent. He has visited thousands of print shops and demonstrated Heidelberg's at many fairs and expositions.

Among Mr. Beckenbach's excellent qualifications is his unique and outstanding ability to convey his knowledge to others. This prompted the Heidelberg Factory to place him in charge of their Heidelberg Pressmen's School, and for many months now he has been expertly performing this important job. Comments from all participants in the courses attest to his ability and accord him full appreciation.

Mr. W. Backhausen is the Manager in-charge of the Printing Machinery Sales Organisation of The East Asiatic Co., (India) Ltd., and is himself a qualified Printer with many years' experience from well-known Danish Printing Houses. While working in Egmont H.

Peterson, Copenhagen, he obtained a bronze medal in 1933. Mr. Backhausen has specialised in the planning of Printing Presses inclusive of Planning of rationalized printing. Also he has had practical experience from working himself on automatic Printing machines such as Kelly, Poly, Koenig & Bauer, Elka, Mercedes, Miehle, Lagerman & Heidelberg Platen & Cylinder Machines.

Mr. Backhausen was a Departmental Manager of I. H. Schultz University Printing Press in Denmark from 1937—1947 where he was in charge of 50 printers and 37 machines. Also he has travelled widely in Europe and stayed in various printing machine plants and visited important makers of printing machines. He joined The East Asiatic Co., (India) Ltd., in 1947 and has since then built up their Sales Organisation and trained the technical staff now employed.



Mr. W. Backhausen

From Our London Correspondent

(Continued from page 48)

easily accessible for carrying out adjustments, are fitted with automatic fold equaliser mechanism which maintains uniform folding from low speeds upto the maximum. These folders can cope with varying requirements of the publisher, delivering broadsheet or tabloid products with all pages inset or in sections by transverse collecting or cylinder collecting. Delivery from the folder can be arranged either hand take-off or conveyors, they can be delivered in a continuous stream with the quire copy kicked out.

Various types of reelstand can be fitted, ranging from spindled type reelstands to spindless type single and two-arm rotating reelstands. All reelstands are fitted with automatic tension device to maintain an exact pre-selected pull on the web throughout the life of the roll. Various additional refinements are also available, including adjustable colour type cylinder, late news and seal, automatic paste pumps and stitching mechanism.

Prevention of fire is a subject of considerable interest to the printing and allied trades, as most printers have large quantities of inflammable materials either in everyday use or in stock. The main causes of fires, it is stated in a recent issue of "Printing Abstracts", published by the Printing, Packaging and Allied Trades Research Association are:— (a) careless handling of flammable cleaning fluids, inks or ink thinners, such as gasoline, naphtha, alcohol, kerosene, benzol etc; (b) paper ignited by gas or electric dryers or through electrostatic sparks; (c) friction sparks from printing or processing units igniting paper shreds or inks; (d) careless



The DWV team of four members that arrived recently in Madras were received at the Aerodrome by Sri J. P. Jain of Indo-European Machinery Co., Ltd., and by Sri Murthi of Printindia.

handling of waste materials—shredded papers etc; (e) spontaneous ignition of oily rags or papers; (f) lead melting or glue heating; (g) usual common hazards such as smoking and matches, misuse of electricity, heating defects etc. Included also is a note on how to make press tapes fire-resistant. The suggested method is to soak tapes overnight in a solution prepared from 1½ lb. borax, 1½ lb. boric acid, and ¼ teaspoonful of a dye (to show the tapes have been treated) in two gallons of water.

In the field of paper processing and finishing, interest attaches to the recently-developed Fend process. Essentially this consists of a protective coating which can be applied in a simple manner, using brushes or sprays, to paper surfaces with the object of keeping them clean. The action is to seal the surface so that oil, grease, fat and waxes stay on the surface and can be wiped off instead of leaving a dirty mark where they have soaked in. It also seals the surface against non-greasy materials which can be sponged off, while it gives considerable

protection against pencil and ball-pen marks. The product was originally developed for use on wall-paper and distemper, but is found to be equally satisfactory for book jackets, paper-covered boxes, and similar uses. The great advantages are that the colour of the paper treated and also the printing is not altered, and the product is non-inflammable and non-poisonous.

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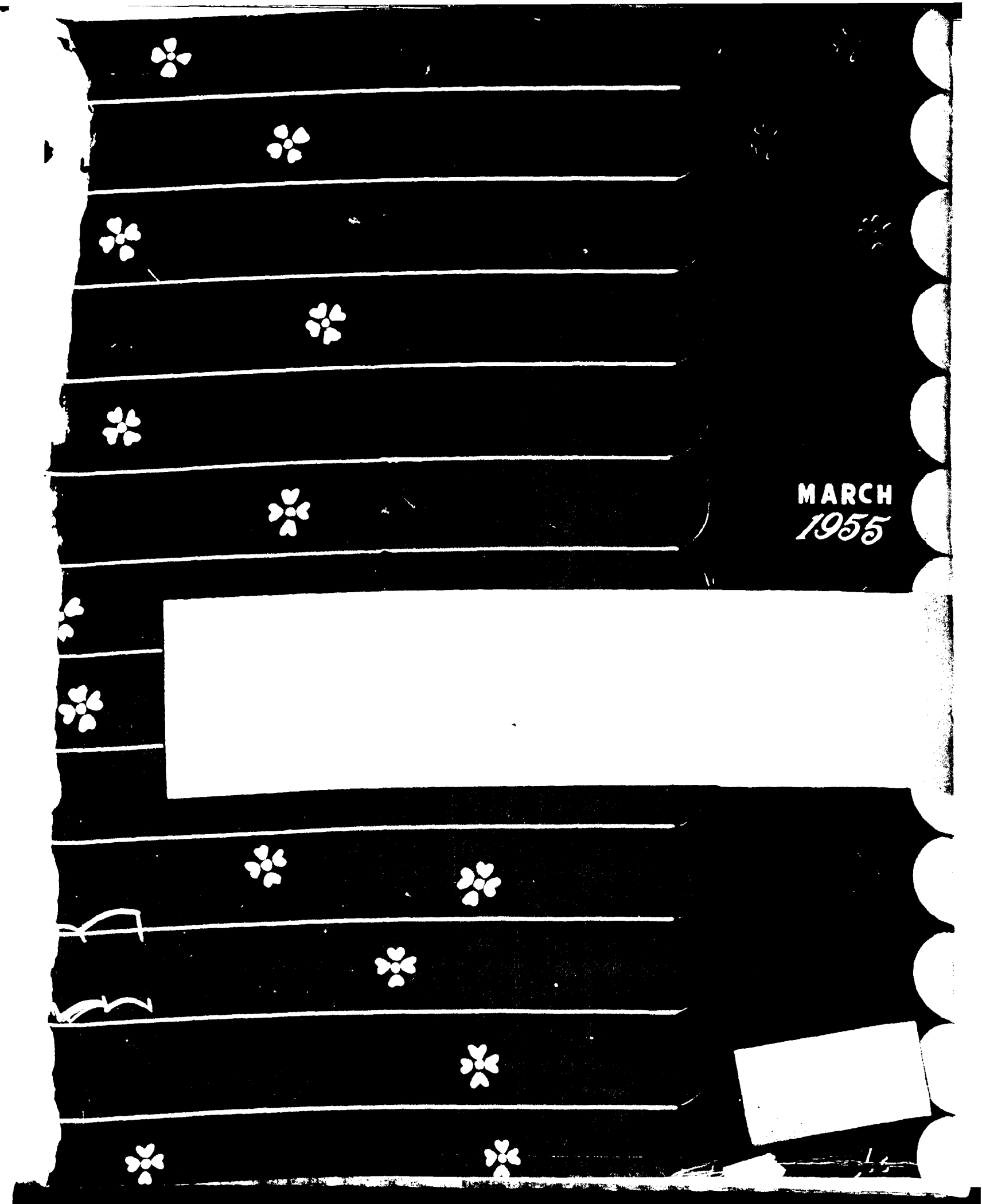
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A MONTHLY SURVEY OF THE GRAPHIC ARTS INDUSTRIES

VOL. 3] MARCH 1955 [No. 5

In this issue....

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Circulation Manager
Y. V. Rau

London Correspondent
F. & D. Brownlie

Roving Correspondent
G. V. G. Krishnan

The Editor invites articles on printing and allied industries for publication in the magazine. Articles should be of a good standard and should be neatly typed on one side of the paper only. Payment will be made after publication for the articles published as per the rates agreed upon by the Editor.

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Premakeready Technique

By

MR. ROBERT T. RICE

Poor maintenance of pressroom equipment is the root cause for making the most careful premakeready techniques valueless. In this article, the author explains elaborately some important points to be checked

Precision from preparation is primarily the responsibility of the composing room. However, it is equally the responsibility of the pressroom to follow through with precise practices in handling the forms.

The first and probably the most important phase of pressroom responsibility is good press maintenance. The printing equipment manufacturers build our presses to very accurate tolerances. Wear and tear due to careless maintenance can soon destroy the accuracy and efficiency of these machines. An irresponsible attitude toward press maintenance can only result in a makeready procedure which is merely compensation for mechanical defects, the pressmen correcting the same faults in form after form because of defects in the press.

MOST COMMON DEFECTS LISTED

Some of these more common defects which develop after a press has been in use are:

1. *Worn bed support tracks*, caused largely by presses not being levelled properly on their foundations. A piece of machinery such as a cylinder press will settle on its foundation after a brief period of running. Uneven settling will twist the frame, especially the bed support frame, and cause uneven wear on the bed tracks. A newly installed press should be checked for levelness after 500

hours of operation and at least every 1,000 hours thereafter.

2. *Bed bearers worn and damaged*. Uneven settling of the press will also cause uneven wear on the bed bearers. As stated in a previous article, bed bearers are established at very precise heights in order to maintain a correct travel line of impression. It is essential that bearers be maintained accurately to the exact height specified by the manufacturer if a correct travel line is to be maintained. Bearers damaged by dirt and carelessness can destroy the impression accuracy of a press to the extent that no kind of make-ready can overcome the defects.

3. *Improper contact between cylinder and bed bearers*, due to worn impression eccentrics or improper adjustment of impression pull-down. Arbitrarily pulling the cylinder down tighter to the bed bearers serves no good purpose in correcting defects caused by wear and improper maintenance. The adjustment of impression contact between the cylinder and the bed is very critical and should never be attempted until after the defects in frames, tracks, and bearers have been properly corrected. Where such impression defects are present, the first step is a thorough overhaul by an expert press mechanic. After that, a disciplined program of maintenance, inspection, and adjustment must be maintained.

4. *Bed and cylinder surfaces damaged* by dropped tools and other

accidents. Defects in the cylinder and bed surfaces such as dent craters, gouges, etc., must be removed by a mechanic who knows how to repair them without destroying the levelness of the surrounding surface.

Accidents such as "smash-ups" often add permanent deflection to some confined area of the cylinder. Such deflections can usually be overcome by adding a permanent correction overlay next to the cylinder. This overlay is developed by using the precision test block method of press correction which has been employed very successfully for many years. Precision test blocks are available on either a rental or purchase basis. Their use should be an established part of any press maintenance program.

A hard packing (as described later in this article) must be used. This packing should be adjusted to get a "kiss" impression on .002-inch S&SC stock. The form of test blocks is then placed on the bed and locked just snug enough to permit the blocks, to lie solidly on the bed. Plane the form carefully. A soft halftone ink is satisfactory. Be sure the ink is distributing evenly before pulling the proofs. Then select stock of varying thicknesses—.002, .003, .004—and run successive proofs.

By running proofs on these various thicknesses of stock, the contours of the deflection are

clearly outlined in steps so that an accurate correction overlay can be made. This overlay is hung in the permanent packing next to the cylinder.

The important things about any maintenance program are that it must be carried through on a regular schedule and that the work must be done by mechanics who know how to measure and adjust to close tolerances. Maintenance is more than just a daily oiling program. A good program will include inspection and adjustment of the type of defects discussed above at least once every 1,000 hours.

Putting precision forms on the press is a simple operation, but it must be done carefully. Paper lines, dead lines, etc., are scribed on the chases, and the forms are accurately positioned to these reference points. The method of getting position on the press consists of matching the dead line on the chase to the dead line on the press, centering the chase on the bed, and squaring the drop guides to the standard gripper bite established for the press.

PRESS LOCKUP IS SIMPLIFIED

Thus the procedure for putting the form on the press becomes a simple, positive operation as follows:

1. Place the form on the bed and loosen the quoins. Match the dead lines and center the chase. Plug the chase at both sides and then tighten the clamps snugly so that the chase is snug to the bed and in exact position.

2. Snug up the quoins and plane the form carefully. Then draw up the quoins just tight enough to hold the form snugly and so that the form is seated solidly on the bed.

3. Square the drop guides for the standard gripper bite and set

the side guide to center the form on the sheet.

4. Adjust the fountain and rollers and work up ink distribution for running.

5. Proceed with whatever spot overlay may be required.

Printing pressure varies in degree from zero contact for an isolated dot or hairline up to several hundred pounds for a solid. It is unmeasurable in any specific instance. The only method we have of arriving at the pressure required is the lineal measurement of height expressed in thousandths of an inch and achieved by adding overlay in the packing to develop the varying pressures required. The pressure requirement changes with the slightest change in the nature of the stock being printed, the viscosity of the ink and its affinity for the paper, and the solidity or openness of the form image.

The preparatory work required to produce the proper transfer of the image depends first upon the mechanical accuracy maintained both in the form and in the press, and second, on the packing and the adjustment of impression pressures in the packing. The nature of the packing is most important. Because, with rigid precision forms, we are working to close tolerances in measurement, a hard packing is essential to good results.

The hard packing is made up entirely of tympan, the .006-inch thickness being preferred. Five of these sheets, including the top drawsheet, are placed in the upper packing. The remaining sheets are placed in the lower or permanent packing. Tissue or folio is then used to bring the packing to the correct thickness for the stock being printed. The packing must be carefully adjusted to give the light impression required over the light areas of the form. Any additional adjustment is made by spot overlay to develop what pressure

may be required over the heavy areas.

The hard packing is both resilient and compressible within a definite range. It is resilient to a degree which permits it to deliver full printing pressure at a minimum compression of .003. That means that full printing pressure over the heaviest areas in the form may be developed with a maximum of only .003 of spot overlay. Because of this narrow ranges of resiliency and compressibility, the hard packing will stand up under much longer runs without a breakdown of impression or without excessive wear on the type and plates.

Rigid metal-mounted plate are extremely sensitive to hard packing impression. A perfect transfer of image occurs with only a minimum of flat spotting. There need never be more than .003-inch of spot overlay in the packing to attain perfect impression from the zero contact for an isolated dot to the maximum pressure required for a large solid.

ONLY 'FINAL SPOTTING' NECESSARY

The combination of rigid precision forms and hard packing impression reduces the makeready process to what we now call "final spotting". As stated in the article on rigid plate mounting, the amount of spotting required can be further reduced by varying the heights of certain types of plates. Standard heights for screen or solid tints and halftones can be established according to size. For instance, plates up to 12 square inches should be maintained at .918-inch. Plates up to 100 square inches can be standardized at .919, because both the bear-off factor and form roller adjustment can be affected seriously.

The finest quality printing can be produced with this flat make-

(Continued on page 12)

Mechanical Composing

This article briefly describes the developments worked out through the decades in the Monotype machines

The first sight of a 'MONOTYPE' composition caster at work, setting and spacing out lines of type ready for the press without any human intervention, is apt to leave the layman asking, first of all, whether the thing that he sees is possible. Indeed, the more he knows about the subtle technique of composing type by hand from the case, the more he can marvel at the automatic, mechanical precision with which that 'Monotype' caster not merely outstrips the fastest human compositor in speed, but actually attains an evenness of word spacing which would be impossible by the older method.

The layman is duly assured by the printer that this machine, famous though it may be as one of the marvels of twentieth-century mechanical ingenuity, is nevertheless taken for granted in every modern printing office as a dependable servant and an indispensable saver of time and money. He may also be reminded that the immense improvement in the "look of the printed word" during the past thirty years or so, and the whole movement to raise the typographic standards of any sort of reading matter from the child's school book to the business man's catalogue or advertising, was chiefly made possible by the development and wide distribution of "Monotype" machines.

All this arouses the layman's curiosity, and every modern printer who occasionally shows a visitor around the plant has committed to memory some simple form of words which at least tell that visitor that what he will be witnessing

in the "Monotype" caster room will not be an outright miracle (namely a machine that has somehow learnt to spell and set words), but simply a highly ingenious application of certain mechanical principles, one of which is as old as the Jacquard loom which revolutionized the textile industry: that of controlling intricate mechanical operations automatically by the use of a perforated ribbon. The printer may indeed have given away the secret in advance by first showing the visitor into that other room where men are sitting at "Monotype" keyboards (which resemble giant typewriters, each mounted on an iron pedestal), tapping off the copy that the casters will turn into lines of metal type.

Each tap of the keys perforates a paper ribbon which unwinds at the top of the mechanism. There is the explanation, and it is understandable enough to anyone who has seen a pianola roll travelling over the row of air vents that correspond to all the keys on the piano.

The casual visitor to a printing office is often quite content with that elementary glimpse of "how it works". He has seen typewriters and pianola rolls and he probably realizes that "remote control" of an automatic specialized mechanism, by perforated ribbon, is of great practical advantage to the modern printer. Beyond that he may not wish to go for technical details. The thing obviously is working, and just as obviously is working to his advantage as a reader of printed matter or a

buyer of print: let the experts say how it is all done. That is a sensible enough attitude for the "outsider" to take. It can even be commended. A man who knows what he wants of the printed page, without knowing at all what difficulties may lie in the way, is certain to give the experts a headache sooner or later: but such headaches may—if the request is reasonable and likely to recur—bring forth mechanical improvements.

When "Monotype" machines were first introduced to the trade, their product was scarcely distinguishable from that of earlier composing machines which cast an entire line as a rigid unit, and their composing range was no greater. It was in response to seemingly "impossible" demands, mainly from publishers who were too technically ignorant to realize what they were asking, that this composing method was gradually extended to its present uniquely wide range of services. Similarly, only an "ignorant" publisher would have dared to ask, before 1908, for mechanical composition in "fine" type faces. The technicians knew why the machine was not yet ready to challenge the heights of typographic achievement reached by the classic typefounders. The outsiders only knew that it ought to be attempted; and in due course it was.

For such laymen the Monotype Corporation issues an elementary "Picture Book" which shows at a glance the main principles on which the keyboard and caster work, and explains their more



Sri Ardeshier, Sri N. L. Contractor, Sri Viswanathan and Sri K. D. Kohli (sixth from left) at a luncheon party at Connemara

obvious advantage to the printer and his customer. This present book, obtainable from any of the monotype offices in India on request, is intended to bridge the gap between that simplified account and the very detailed instructional literature, parts books, etc., available to operatives and students. It contains what the owner of the machine, the master printer, would be well advised to know if he is to exploit an endlessly versatile servant to its utmost. It gives the student beginner a general view of technical whys—and—wherefore before he plunges into very specific details. It offers sufficient knowledge to those in the case room or machine room who want to be "good neighbours" to the keyboard and caster operatives. And to the layman with any appreciation of mechanical engineering, this book will at least provide interesting reading. It took more than thirteen years to develop "Monotype" machines from the pilot-model stage to the production line, but their most astonishing feat from the engineer's point of view was performed from the beginning: that of justifying (spacing out to predetermined

column width) lines of separate types automatically.

The Monotype machine was invented in 1891 by Tolbert Lanston, a clerk in the American civil service. He was that rare type of mind which, without any training in the mysteries of mechanical engineering, can devise original inventions. The Lanston Monotype Company of Philadelphia was eventually formed to promote the machine. In 1897 the company felt the need for further capital. London was, at that time, the international fountain of capital for new enterprises and inventions. Through the good offices of the Earl of Dunraven, whose name was familiar to all Americans as that of a competitor for the international yachting trophy, a British syndicate was formed to purchase the British rights in the invention for £ 220,000, the sterling equivalent of one million dollars.

Mr. R. C. Elliott, who installed the first Monotype machine in India in 1903, and is still with the Corporation, can remember the day when the earliest models of

"Monotype" machines were arriving from America as unassembled parts: when there were no textbooks or traditions to help the ex-compositor who had decided to risk his future on a new invention: and when the interplay of the metal parts had not yet been so perfectly worked out as to guard against sudden breakdowns. He has many times contributed with his inventive skill to the subsequent development of the machine, and witnessed the years in which The Monotype Corporation Limited of London—which from the first had been financially independent of its sister company in Philadelphia—was equipping its famous works to manufacture every part and matrix by British workmanship of the highest possible standard.

But the most significant general occurrence which he has witnessed in the printing world has been simply the arrival and eventual triumph of "single type" mechanical composition. Its arrival was at a time when the whole problem of setting type by machine seemed to have been "solved" by the earlier method of casting whole lines from composed matrices. For several years before 1901 many printers seriously believed that "movable type" was doomed in any field where cheapness and speed mattered most. Others, however, waited to see whether the long-hoped-for machine for setting single type would prove practicable. If so it would offer them, in addition to economy and speed, the two immense advantages of separate or single type: correction with the minimum risk of further errors, and that "printing quality" which not only gives beauty to the job but incidentally keeps make ready costs low.

(Continued on page 8)

A Few Suggestions for Upgrading Printing Trade and Industry

By
SRI BIMAL CHATTERJEE

".....No industry can thrive or reach a stage of perfection in a state of vacuum or by adopting rule-of-thumb methods" says the learned author in this article

Dissemination of universal literacy is one of the major planks of our national development plan, and in the present content, the aim seems rather high-sounding and difficult to achieve when one takes into account the extremely lopsided development of the printing industry in India. True, we have scores of "Master printers" in all the principal cities of India and the number of establishments that designate them as "printers" quite a legion. Whatever may be their human and material resources, and the "tonnage" of the bank balances of the luckiest few among them, it is hardly an underestimation to state that the industry is still in its infancy and that we have to cover the entire ground anew to reach the zenith of efficiency achieved by the progressive countries of the world—and may be, it will take us several decades, of concerted effort. For the fact remains that no industry can thrive or reach a stage of perfection in a state of vacuum or by adopting rule-of-thumb methods.

The printing industry has developed in India on borrowed plumes. Not to speak of the technique of the various processes, for which we cannot claim any originality, we are yet absolutely dependent on extraneous sources for supplies of machinery, the critical amongst the raw materials, the know how and for ace technicians. Hitherto the manufacturers' representatives have been responsible for catering

the technical service to the industry. Being more interested in pushing the products of their principals, quite a large number among them desisted from making any effort at processing any spare part in the country, and in almost all cases, they recommended the replacement of defective parts.

It is a fact that for their skilled workmen's cadre, they could not but depend on the sons of the soil, a few among whom—without being acquainted with the theoretical aspects of the machinery—have picked up the trick of the trade and are rendering useful assistance to the printers in effecting difficult adjustments and repairs inside the country.

It is heartening to note that for sometime past, the go-ahead section amongst the printers despite the hundreds of limitations, have been evincing an earnestness in the trade of their choice, exploring new grounds and the result is reflected in the winning of much-prized laurels in International Graphic Arts Exhibitions by quite a few among them, the holding of national parleys for discussing the manifold problems facing the industry and the holding of displays where scores and scores of the exhibits have evoked the approbation of the most fastidious amongst the critics. These are indeed signs of vitality and should be nurtured by all means.

For some time past, the Indian printing Industry has been feeling

the imperative need of developing facilities for thorough training in the art, science and technique of the manifold facets of printing without which there is hardly any possibility of placing it on sure foundations and broadening the scope of the industry for not only finding out fruitful scope for employment for the literate and the brainy but also for the dissemination of the three R's amongst the masses.

Another welcome trend that has been noticeable throughout the country of late has been the pegging up of quality at higher and higher levels by not only the printers themselves but also the consumers or handlers of printed materials. But a dearth of technicians with thorough theoretical knowledge and technical experience in the fundamentals have stemmed this trend.

Since the dawn of independence greater-than-ever assistance has been extended to the industry and the trade, indicating a growing realisation on the part of the authorities of the key role played by the printed matter in social development.

In deference to the wishes of the organised sector of the industry the authorities have already embarked upon a programme of printing and Allied Technology. The Eastern Institute for catering to the requirements of people on the eastern side of the Indo-Gangetic Plain has

been proposed to be set up and the construction project has already been taken up at Jadavpur in the suburbs of Calcutta. The Ad hoc Governing Body of the Institutes comprises of a number of ace-printers and public spirited men. It is expected that the first session of the course will be started from July next.

In Western countries, adequate facilities are available for training up people in these highly specialised lines. The courses consist of the Master printers' Course and the Technician's course. In view of the existence of a large number of printing establishments, the Master printers get an easy billet on completion of their academic career. The technicians too are absorbed by scores of up-to-date large-scale printing and allied machinery factories in the metropolitan cities and the thousands of the independent distributors and manufacturers' representatives throughout the country. Whenever something goes wrong with a machine, the master printer seeks the assistance of the technicians, and the two groups remain busy as ever behind the limelight, rendering one of the most solid contributions to society.

Well, this water-tight separation would have surely served our purpose, had we not been required to start from the very scratch or were we not required to cover the

long backlog in the shortest possible time. Hence the only alternative open to us is to arrange a holy wedlock between the two and train up the students in all aspects of printing technology—may be in respect of the bare fundamentals. This will enable the future printers to be more independent of extraneous assistance, indirectly reducing breakdowns and augmenting the turnover from the plants.

It is a matter of great satisfaction for the industry in West Bengal that Chief Minister Dr. B. C. Roy, himself an active printer for sometime, is alive to the problems and is so keen on removing the hurdles stemming its progress. A great responsibility therefore, devolves on the profession in West Bengal, in utilising this paternal assistance to the consolidation of the interests of the industry, so that Bengal can still play her due role as the leader for India in this specialised line as well.

(Courtesy: Amrita Bazar Patrika)

Mechanical Composing

(Continued from page 6)

But from 1901 onwards it became evident that the single type advantages had in fact been recaptured for mechanical composition. After that it was only a question of following out the possibilities latent in the earliest keyboards and casters. Even in 1901, a "Monotype" keyboard put more character keys under the

operator's fingers than any other machine: today it provides him with the full seven alphabet range of over 250 characters. Even the earliest "Monotype" caster had the great advantage of being able to provide "sorts" and spaces for the case in spare time—though then only to 12 point. Today with a display attachment it can function in effect as a private type foundry to 36 point, and can be adapted to cast leads and rules.

The basic principles of "Monotype" composing machines, and above all the separation of the "tapping" and "casting" functions, were such as to make possible a long series of technical improvements, and a great expansion of range by optional attachments, without any radical re-design of either machine. Since 1908 there have been no obsolete model "Monotype" machines. Yet their development continues, and experts continue to find new possibilities in them. To the technician there is "always something on ahead" with the single type machine.

The craftsman who feels the zest for exploration will find that much more enjoyable a career. But the zest comes from understanding not only his own specific task as a keyboard operator or caster attendant but also the inter-relation of the two mechanisms, and the epoch-making possibilities of the unit system.

Printing Ink Manufacture in India

By

MR. JOHN D. BARTON

The learned author describes the growth of the printing ink manufacture in India and asserts that the printing inks manufactured in this country are of a very high standard

Printing Ink Manufacturers are very much the back room boys of industry. Even the biggest are hardly, if at all, known outside the trade which they serve.

This is mainly due to the fact that their products are used by only a section of the people and inks are merely a part, but a very important part, of the process of converting paper and other materials into a finished article by the printer.

An apt comment which clearly expresses the true position of the industry in this Modern World was once made by a noted sage: "Printing Ink is the apostle of progress, whose pulpit is the printing press." It might also be said that it is the oil which lubricates the wheels of Industry and Commerce, and even the fuel which drives them.

Printing Ink in all its numerous and various forms is the medium by which knowledge is made available by means of printed books to the masses of the world. It makes possible the spread of news day by day; the recording of history, it brings quiet entertainment to the individual in the form of novels and books, both fact and fiction. It even features in facilitating the barter of goods and services in the form of printed currency, and it manifests itself in so many other ways that merely by looking around in one's daily life, Printing Ink may be seen almost everywhere.

It would be almost impossible, in fact, to find any single person in

the world today whose life is not in some way influenced by this 'Apostle of Progress' and who would not miss his absence even if his presence is taken for granted.

In India there are over a lakh of printing presses, from large enterprises employing hundreds of workers down to small units which are almost at a cottage level, spread out through the length and breadth of the subcontinent in climates which vary from extremes of heat to extreme cold.

All these thousands of printers require the services of the ink maker, and almost everyone of them has his own individual tastes to be catered for, because it must be remembered that printing is more of an art than an industry, and each piece of printing demands its own particular attention from the skilled men producing it.

Then too, there are numerous types of paper and board, fabrics, metal sheets, even plastics for which the ink maker must formulate his inks. The various processes used by the printer and even the various types and makes of machines all present their own individual problems to be overcome.

It may therefore be seen what a vast and formidable task faces the ink maker in his chosen profession and one which offers its own challenge and rewards to those engaged in it.

This complex and conservative industry is no new comer to India.

It may justly be proud that its foundations were laid even before the First World War, and it has slowly expanded and progressed along with the printing industry of this country for most of its life so far in keen competition with imported products.

Another fact which gives the Indian ink maker a great sense of satisfaction is that the indigenous product has always maintained a very high standard and is as good as anything produced anywhere else in the world.

Between the numerous manufacturers who are now in the field practically every city of any size has a Printing Ink Factory of some sort, large or small. Most of these are located in Calcutta and Bombay. Madras has only in fairly recent years become a centre of manufacture and now has three factories producing the products of the leading firms whose factories supply the ever growing needs of the South Indian Market.

While, as has already been stated, the industry made its start at the beginning of this century, the main developments have taken place during the post war years. This development has been largely due to an ever increasing demand for printing inks and has been given a great deal of impetus by the gradual tightening up of the Import Policy of the Government.

In fairness to the industry as a whole it may be said that it

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was not so much competition from imported products that delayed its recent and somewhat rapid growth, but a general impression difficult to overcome that imported printing inks were superior. It might be well therefore to stress that the leading manufacturers in India have in the past and still do produce an article of the very highest standard at most competitive prices. The wide and continued popularity of certain established brands bear witness to this fact.

The industry as a whole can supply the needs of all classes of printers from those who demand always the best and highest qualities of inks, to those who print cheaply on a mass scale and require their materials at the most reasonable prices.

The Indian Ink manufacturer is in no way behind those abroad either in his knowledge of the trade or his methods of production, and most of the ink factories in India are as modern as any to be found elsewhere.

He has perhaps a certain advantage over most ink makers abroad in that India is an hospitable land where people like the personal touch. My own company, to strike a personal note, likes to look on its customers more as friends than clients. The ink maker here is therefore very familiar with the multitudinous problems of those he strives to serve and it is hoped serves them the better for it.

As far as is possible, the industry supports the home country in respect of its supplies of Raw-Material, the principle one being Linseed Oil which is one of India's natural products. Linseed Oils exported from here are also used in large quantities in the manufac-

ture of printing inks and paints abroad.

This basic material has to be processed in various ways in order to obtain the numerous types of varnishes required to produce inks to suit the various processes and sub-divisions of those processes peculiar to the Printing Trade, and this conversion of the Raw Linseed Oil is an art in itself.

Of course, Raw Linseed Oil is not the only basic liquid, or 'Vehicle' as it is known in the trade, which is used by the ink maker. Numerous other oils, both vegetable and mineral, are processed and blended to suit the various requirements of the finished product.

The pigments, or dry colours as they are called, are purchased by the ink maker from specialist manufactures of these items, since the manufacture of these on anything but a mass scale would render the cost prohibitive. However, the ink maker keeps a very watchful eye on his supplies to ensure that each batch is fully upto the standard required.

These latter materials are in the main imported from abroad, but their manufacture is gradually being undertaken in India by various companies, and those that are now in general and popular use by the trade can be said to be fully up to the standard of those imported.

There are, of course, certain items manufactured here which so far do not meet the exacting demands of the printing ink trade, but there is little doubt that as time goes on most of the materials required will be obtainable from local sources.

Carbon Black, which is one of the most widely used materials in the trade, is the virtual monopoly

of the United States where it is manufactured very cheaply and it has been found to be more economical to purchase this material from there rather than attempt to manufacture it here in India.

The machinery used by the trade while appearing simple in its construction is of a very specialised type, requiring specially processed metals for its essential parts. This fact alone precludes the manufacture of these machines in India since the comparatively small demand for this type of plant would render the cost of the necessary castings prohibitive.

The foregoing may perhaps give some idea of how the printing ink trade has served and still serves the furtherance of progress in India. In its own small way the trade does great service not only to the printer, but to the community as a whole. It also helps to further the aim of the government in its Five Year Plans by providing even increasing opportunities for employment of the people.

It is hoped that the trade will continue to expand and prosper, for if the printing ink trade is flourishing and developing, then the demand for printing must be increasing, which can only happen if the country as a whole is prospering and progressing.

(Courtesy: The Hindu)

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From Our London Correspondent

F. & D. BROWNLEE

A new material which will simplify and speed up production in photo-engraving and lithographic plate-making has been tested out by the Printing, Packaging and Allied Trades Research Association. It is a dual-purpose photo-resist, made by Kodak Ltd., and has recently been introduced in the United States. The Patra tests on the material are among the first to be carried out in Britain, and in an Interim Report by R. W. Golledge and L. E. Lawson advice and information are given on the new material which, if introduced commercially in Britain, may result in an all-round improvement of production efficiency in process work. For instance, in photo-engraving, it is possible with the photo-resist to pre-coat plates and to store them for at least three months before exposure. Another feature is that plates coated with this material are unaffected by high humidity and temperature.

A point of interest to newspaper printers is brought out in the Report. The authors say that with proper organization it should be possible, by using pre-coated plates, to expose, develop, dye and dry the image in approximately 6-8 minutes. No "burning in" of the plate is required, which also means an economy in processing time.

On all the plates coated in the tests, including a limited number of magnesium plates, no pinholes or pitting was observed, and very clean images were obtained on copper without special treat-

ment, using upwards of one-third of the exposure time necessary for fishglue.

The photo-resist is also a useful material for the lithographer and it is stated that processing is quick and simple, especially when compared with deep-etch methods. Considerably less exposure is necessary than with conventional dichromated materials, and no scumming or similar troubles were met during printing trials on a miniature litho machine. It was found that the resist was suitable not only for zinc litho plates with which most of the experimental work was conducted, but for grained aluminium plates. The manufacturers state that the resist contains no chromium compound and therefore cannot cause chrome dermatitis. For its adoption commercially, however, the Report states that full-scale printing trials would be necessary.

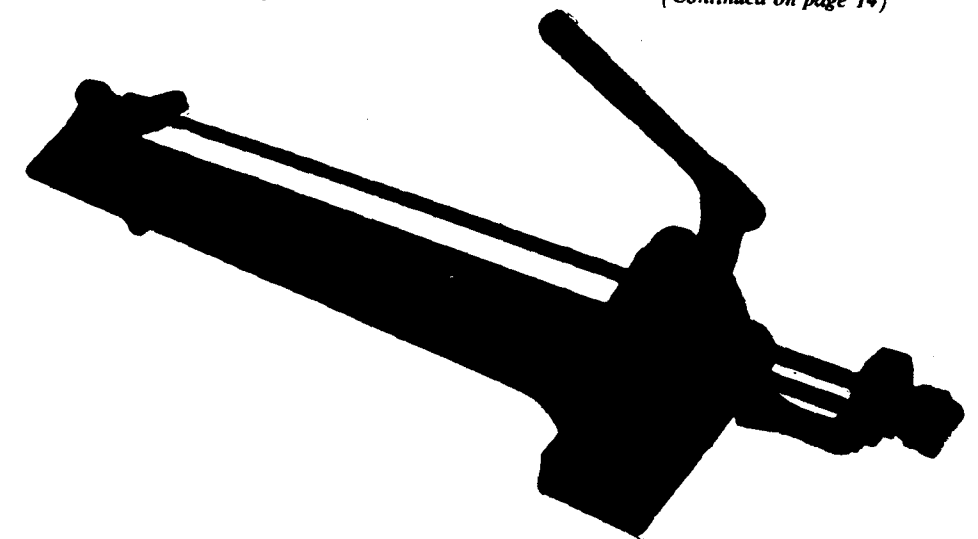
Another interesting coating technique in photo-litho work is represented by the use of colloidal

graphite dispersions, produced by Colloidal Graphite Ltd. of London. The advantages claimed for this process include consistent adherence, intimate contact, rapid drying, and freedom from flaking or cracking.

Graphite particles have a microscopically thin flakelike form, and this laminar structure ensures the maximum coverage with the thinnest possible film. As the film is only of molecular thickness, the bond obtained is that due to molecular forces, and the tenuity of the coating guarantees intimate contact when printing-down and obviates all refractive effects at the edges. The flakelike structure gives a dull photographically neutral surface, particularly important when operating with modern, highly sensitive emulsions.

Carbon in graphite form is of course chemically stable, the material not being affected by extremes of either heat or cold. When desired, however, it can

(Continued on page 14)



Arestocrat Lead & Rule Cutter

Premakeready Technique

(Continued from page 4)

ready. The phenomenal results obtained make hand-cut overlays and paper-doll cutting obsolete, even detrimental to the process. The dollars-and-cents reduction in cost and the superior quality obtained are something printers cannot afford to pass up.

With proper packing on the press, we can now return to steps 4 and 5 of the procedure outlined above. The nature of the ink and the lay of the ink film critically affect the amount of spotting required at any specific area in the form. It is no idle statement that many pressmen spend a lot of time adding impression pressure when the real fault is in the viscosity or distribution of the ink.

Ink must be formulated not only to suit the paper and final requirements of the job but to suit the press on which it is used. An ink formulated to work well on a large cylinder press running at 1,800 impressions per hour will not work well on a smaller press with an entirely different type of inking system and running at 3,600 impressions per hour. The difference in formulation in this respect

is in the viscosity of the ink, and this vitally affects the amount of final spotting which may be required. Therefore, the ink adjustment and roller setting must be worked up for running before the final spotting is done.

An alternate method which these precision practices make extremely efficient is the dry method of makeready which uses a carbon transfer. In this method, a preliminary spotting for bear-off is made before inking up the press. A light-weight one-time carbon is used. The carbon is placed face down on the fifth manila of the packing. An impression is obtained by running several sheets of the stock to be printed. The carbon image thus obtained distinctly outlines the bear-off areas so that these areas may be spotted up with makeready tissue. The packing is then closed again, and the inking is adjusted. This method is very efficient, and frequently the job may be run without further spotting.

All of the procedures involved spell our savings in hours and money, or increased production and greatly improved quality.

It is an observable fact that the letterpress industry has pro-

blems that can be solved only through improved mechanics. Whether we call it premakeready, pre-press, makeready reduction or anything similar makes little difference. Basically it is a matter of good mechanics. We don't contend that the approach outlined in this series is the ultimate solution. However, we have pointed the way to the ultimate solution of the major problems of economical production. Wide vistas open to further improvement in equipment and procedures.

It is certain that letterpress printing is, and will remain very much in the picture among the major processes. The volume of printing being done on flatbed presses is tremendous. The possibilities for improved profits also will be tremendous when printers recognize the efficient methods available to them and put to use the knowledge, tools, equipment, and procedures required for profitable and competitive operation.

We must remember that vigilance in maintaining standards to a high degree of accuracy is essential to reducing makeready time and down time on presses.

(Courtesy: The Inland Printer)

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From Letter Press to Rotary Printing

By

SRI N. K. GOSSAIN

The author, a veteran of the Letterpress Printing in India, briefly describes in this article how the printing in our country has evolved from a hand press to a Rotary through the decades

In the ancient days thoughts and findings of scholars were used to be transferred from one to other only by memory, what is called in Sanskrit as 'Smriti'. Then came the period of palm leaves, Vurjya-patra etc. whereon matters were inscribed. But their lives were surely limited, and the scope of the spread of learning was also too much narrow. Not only this, we cannot assess to-day the loss in the sphere of knowledge we have sustained due to the futility of those articles.

Thanks to the Chinese who first endeavoured to give immortality and to expand the field of exchange of thoughts by producing books printed from wooden blocks; and it was a Chinese again who laid down printing from movable types between 1041 and 1049 in his country. He may be crowned as the pioneer of the Letter Press Printing, what is well known today.

MOVE IN EUROPE

It is hardly known as to who gave the idea of printing books in Europe; and when printing from movable types was laid down or who invented such types. But, it is known that a few letters of indulgence are the first records of printing and these were printed from type cast from a mould from a press at Mainz under John Guterburns. And it was because of John Guterburns that a Rulgate Bible was published in 1456. So, to this man perhaps in Europe, the credit of invention of printing goes.

The first book in Europe, printed in 1454, was Mainz Psalter, bearing the name of the printers, the place and the date of publication. The printers were John Fuse, Peter Scoefen and one of the workmen of Gutenberg.

From Mainz, the art of printing ran far and wide throughout Europe. The Germans, indeed, were first to show the art of printing which they executed in Latin and soon it was introduced in Italy, France, Switzerland, Spain and other countries.

With England, however, the case was different. There was an Englishman who introduced the art of printing books in his own dialect. An inhabitant of Kent, William Caxton by name, acquired the art in Cologne and returning to England in 1476, he started business at Westminster. It was a Papal indulgency, issued on December 13, 1476 as his first production.

LACK OF PATRONAGE

But, in England the quality of Printing suffered from the 16th Century due to the opposition of the Church and the State as this art enlightened the mass to the freedom of thought.

The introduction of printing machine by Charles, Earl of Stanhope in 1800, brought forward a radical change in the field of printing. The hand presses, working on screw principles, were then left inside. The flat-bed machine with a revolution cylinder was the first

power driven printing machine, with the capacity of producing 1100 impressions per hour.

William Bullock, an American, was the first to erect a press to print from a continuous reel of paper, but the machine was not found reliable. In 1868, the famous Walter Rotary press was erected after a ceaseless experiment. The inclusion of folder by G. Durcan and W. A. Wilson in 1870, rendered the Rotary machine much development. Now a days, it is capable of printing 15 reels at a time and 300,000 copies an hour.

The disadvantages of setting types by hand was removed by William Church of Boston who invented the composing machine. In 1880, Joseph Throne set up a combined type setting and distributing machine. The Linotype and Monotype machines came into operation in the U. S. A. in 1886 and in Britain in 1890. Then in Germany Typograph machine was manufactured in 1896.

QUICK DEVELOPMENT

Thus the development of printing industry advanced at a quick pace. The most well known method for text matter is the Letter Press to produce sharp and clean images. Letter Press works to its best to type, photo engraving, wood-cuts and wood-engraving as well as some colour reproduction. Next comes Planography which is the second method known to us. In Planography, the procedure are

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From Our London Correspondent

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easily be removed simply by washing with water to which soap-flakes have been added.

This Susgra Hydrocol colloidal graphite concentration is stated to give complete coverage with a single stroke on film stock, and only two strokes are necessary for coating glass. The material can also be used in an airbrush for shading-off, or can be applied by ruling pen. Sharp outlines are easily obtained, and fine lines, hatchings and rulings can be used on the concentration as supplied, or alternatively the product can be diluted by adding distilled water to the density necessary for any specific application.

Interesting for rapid precision work is the Sumner "Aristocrat" lead and rule cutter, which has finger-touch setting and two micrometer gauges, combining accuracy with simplicity of operation. Made of highgrade steel and best quality castings, machined to a high standard of precision, the cutter has a number of outstanding features, including particularly micrometer point adjustment by half-points, advantageous when cutting rule to be mitred; and finger touch setting, as stated. Thus the bed gauge is easily moved along the self locating bar graduated in $\frac{1}{2}$ -ems. The gauge is spring locked at any desired setting, ensuring accurate repetition cutting and the bed gauge recess enables the setting to be clearly read. The long bed is graduated to 108 ems in $\frac{1}{2}$ -ems, and the knife is in the form of a robust knife-bar casting, which provides positive action, fitted with high-grade Sheffield steel knife. Adjustable screws are provided to take up wear of the knife without resorting to shims, and the

removable handle is constructed of knurled steel, with a tension spring to give speed and accuracy. The finger-touch visible front gauge moves smoothly on two bars, giving 6-point divisions to 24 ems, and the back point adjustment moves by half-points to the front gauge.

Adhesives play a dominant role in printing operations, and one which is tending to extend as their scope and versatility widen, and increasing care and understanding is required in their application. In the current issue of "The British Printer", Frederick T. Day has an interesting and informative article on this subject, emphasising that both the handling and storage of adhesives are important for the best results. When ordering adhesives for a new job the supplier should be given full information about the materials to be used, together with the method of adhesive application, that is hand or machine. If the latter the name should also be given. The cost of preparation of an adhesive might easily determine the form in which it is supplied, and the aim should be to have it as nearly ready for use as possible, thus avoiding the possibility of errors in mixing small quantities from time to time.

All vessels, troughs, and brushes must be kept clean and washed after each job, as machines which become encrusted with old adhesive lower the production and speed efficiency. Coating rollers and other machinery should be washed up at the end of each separate job, or periodically. Proportions of powders and materials should be carefully measured and not guessed, and heat should not be applied to adhesives prepared to use cold. Heat does not thicken them up, but acts in the opposite direction in most cases. In cold weather some cold glues can be broken down with warm, but never hot water. Adhesives should not be allowed to dry

out by exposure, forming hard crusts or crystals which are difficult to remove and generally impair efficient working when restarting.

Absolute cleanliness is essential in storage and operation, and whilst most vegetable adhesives are preserved to a large extent, there is no substance which may be added to provide universal immunization against all kinds of micro-organisms which infect most organic substances. The use of platforms or pallets is recommended for drum and cask storage and the lids of all containers should be kept firmly closed when not in use.

Warehouse temperatures play an important part in storing adhesives. Water-content gums subject to temperatures below 32° F. will freeze and will often form insoluble crystals which affect both the efficiency and appearance of the work. High temperatures cause thinning of vegetable adhesives and animal glues, more especially of the flexible variety. All adhesives should be stored away from heat, fires and similar conditions, and since adhesives rarely improve with storage, large stocks should not normally be kept.

Included in the various types of adhesive described by the author, of direct interest to the printing industries, is the comparatively new double-sided mounting medium for rubber stereos and printing plates. Two of these products are becoming increasingly popular, that is "Lassoband" and "Lassomount". "Lassoband" is a high-grade cotton cloth which is spread on both sides with a pressure sensitive adhesive, and interleaved with gauze. This product was specially developed for the printing and allied trades for the purpose of mounting metal and rubber stereos, zincos, electros, and copper plates on to a wood or metal base.

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Eastern Institute of Printing Technology

By

R. C.

Printing is both an art and a science. Known as "mother of all creative Arts" it holds a unique position in the present-day world. It has broken the four walls within which man's knowledge was buried and spread it among the entire mass of humanity. There is no denying the fact that modern civilisation walks on printing.

As days pass on the science and Art of printing is becoming extremely complicated. Not only is a printer a creative artist nowadays but he must have expert knowledge about the chemistry and physics of the ingredients used in his industry. He is an artist when he has to design the entire typographical lay out of the book or the piece he has to produce; he is a scientist when he has to check up the pH value of his solutions, of his paper, of his ink before he can start production. He must mix colours, just like a painter: he must have the knowledge about colour temperature and should know the essentials about hues and tones. In these days of specialisation and stiff competition, where survival depends on fitness, a printing craftsman must have a thorough practical and theoretical training in his craft. An ordinary layman's idea about a printer's trade is mainly limited to a compositor's job and a machineman's running the printing press. This was true fifty years ago but the days have changed and printing has progressed beyond all expectation. Formerly printing in this country was limited to the Letterpress process, i. e. printing from a raised surface like a printer's type, and secondly Lithography, i. e. printing from a

plain surface like a special type of stone. Not only there has been a vast improvement in these two processes of printing but also a new one, has also come in, viz., photogravure, where the object to be printed, is photographed and then transferred to a copper shell, which is put round the printing machine cylinder for being transferred to paper. While in Letterpress, the printing portion is on a raised portion, in photogravure the printing portion is sunk in the copper shell. Special blades scrape off the extra ink from the plain surface of the copper shell while heavy printing pressure transfers the ink in the sunk portion to the paper. Photography plays now a very important position in the printing technology. In Letterpress process, illustrations are transferred photographically on metal sheets to be printed as process-blocks, in one or a number of colour. In photo-offset process, which is the modern variant from the old age stone lithography, photography performs the duty of Type in Letterpress process of printing. In photogravure process too, as its very name implies, photography is an integral and essential item.

It can be easily imagined from the extremely short and incomplete description of the three main processes of reproduction by printing as given above a proper and intensive training is required in the turning out of efficient craftsmen. In Europe and the U. S. A., researches are being continually made not only by the manufacturers of printers' providers but also by the organisations of printers and the State Governments. The Schools of

printing Technology in those countries are training not only craftsmen but also junior executives, who will go in for the administrative side of the business.

In our country, the printing business like many other industries have grown almost from scratch, neither the employer nor the craftsman having any theoretical training anywhere. There was no training centre and the shop apprentice learnt his job from his master in the most perfunctory way. It is the native intelligence of the people in the trade, one must say, that is responsible for the wonderful progress that printing has made in spite of multifarious adverse conditions.

But the industry in our country is still run as a small-scale one, majority of the printing presses being two-machine shops, with one cylinder and another platen press and a few cases of types. The number of Printing presses producing really quality jobs is extremely small and limited to the two great cities in this country, viz., Calcutta and Bombay. The latest figure of printing presses in Calcutta (including Howrah) is 2350 while that of Bombay (including Greater Bombay) 1000. This number of printing presses is daily increasing. According to a rough estimate the industry occupies third position in number of people employed in it and its allied industries like process-engraving and binding. It is really surprising that so long there had been no effort to organise training these huge number of people employed in this industry. In Poona the local printers run a School to train



Sri K. D. Kohli, Sri P. S. Mehra and Sri S. Viswanathan along with their German friends at a luncheon party at Connemara

young men; in Patna, too, the Government runs some sort of a School. In Bangalore, the Mysore State had constructed a wonderful building for the School but the equipment is extremely inadequate. In Calcutta the proprietors of the Eastern Type foundry started a School and ran it successfully with the co-operation of the Calcutta Printing Press-owners Association for some years. Before long it had to be stopped as the place where the School building was located had to be given to the landlord. It is only in Madras, that the State Government runs a decent sort of a School of Printing. Its equipment unfortunately was not such as to give the training that was expected of it. It is only recently that with the help of the Central Government some machines and equipments have been installed.

The importance of the Printing industry in this country has been realised by the Central Government only recently. A programme to start four regional Schools of Printing Technology, two in the south and two in the north with

the help of the State Governments and the local printers' organisations has been adopted and the Central Government has advanced the first instalment Rs. 1 lakh each to the State Governments of West Bengal, Bombay and Madras. The problem in Madras is comparatively easy as it has already its own building and an organisation. In Bombay and West Bengal everything has to be done from the construction of the building to their equipment from the very beginning. The Second School in the Northern Region will, so far as is understood, will be located in Allahabad. So far no progress has been reported from Bombay. In West Bengal, the School will be located in Calcutta and sufficient land has been made available for the purpose by the National Council of Education at Jadavpore. With the active co-operation of the Central and West Bengal Governments, as also of the Calcutta Printing Press-owners Association, it is expected that the first session will commence working from July, 1955. The Government of West Bengal has appointed a Governing Body to manage the School with

Sri D. N. Mitra as President and Sri S. N. Guha Ray and Sri A. C. Sen, as Joint Secretaries. Other members of the Governing body are Sri Tushar Kanti Ghosh, Sri Asoke Sarkar, Dr. D. M. Sen, Mr. H. Stanhope, Sri B. N. Das Gupta, Sri H. K. Dass, Dr. T. Sen and Sri S. S. Bagchi, Dr. S. R. Sen Gupta, Sri T. C. Ajmani, Dr. J. C. Ghosh, and Sri G. C. Sen.

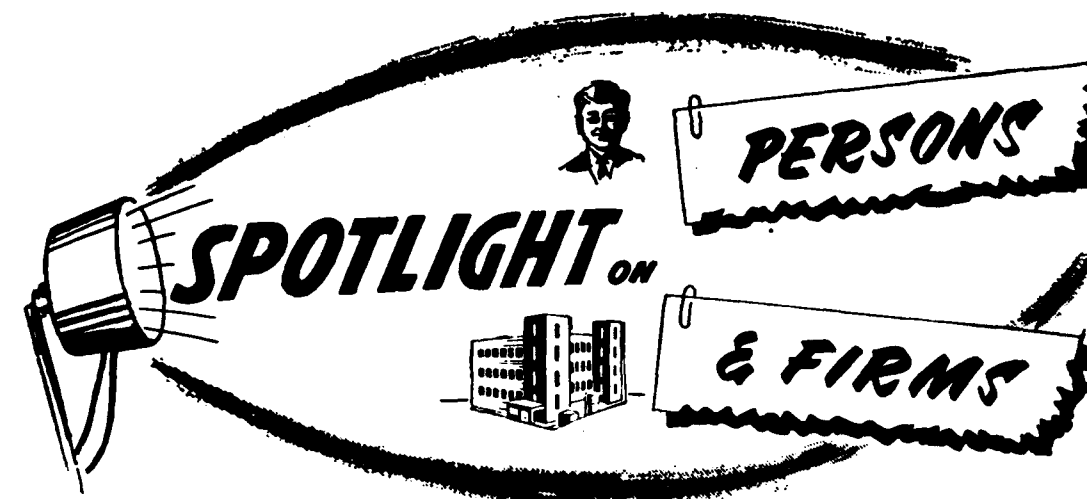
The construction of the School building has commenced and it is expected that it will be complete by June next.

A curriculum of studies has been prepared by an Expert Committee and is intended to train not only junior executives but also craftsmen in each particular job. Besides full-time day courses, arrangement will also be made to start evening courses where the craftsmen already employed in the different printing presses may obtain a theoretical training.

The School is intended to cater to the needs of the States of West Bengal, Assam, Bihar, Orissa, Manipur and Cooch Behar.

(Courtesy: *Amrita Bazar Patrika*)

PRINTINDIA



Mr. Giovanni Cerutti

The first Italian Builder of Rotogravure Printing Presses

The large polished and orderly desk, the equally spacious and shining bookshelves, the arm-chairs and the round table on which are prominently displayed the coloured covers of several of the magazines printed by the rotogravure presses manufactured by Giovanni Cerutti, all this-after all-is part and parcel of the common furnishing of any management office. In a corner, the square box of a dictaphone on which stands a small microphone proclaims, however, that this is the office of the "boss", of the Commander-in-Chief. But you will never find the boss there. From seven in the morning (and even earlier) till seven in the evening (and even later, after the last workman has left) Giovanni Cerutti, the owner of the factory in Casale Monferrato, which manufactures rotary printing presses for rotogravure, wanders indefatigably about the sheds amid the din of the machines and the over-heated air coming from the red-hot jets of the foundry.

Dressed in an old boiler suit of course blue linen which makes him even more minute than he actually is, his hands black with

grease, his back slightly bent, it is not difficult to mistake him-when you don't know him-for an old foreman. One of those foremen who begins his career as an apprentice at the age of eleven and by sheer strength of will ends up by becoming more important and irreplaceable than an Engineer; at the age of sixty you will still find him there tenaciously hanging on to those machines near which he has spent his whole life, lavishing as much and perhaps more love on those steel structures than on a woman.

This is the career of Giovanni Cerutti, the founder of an industry, as simple and unpretentious as the machines are complicated, showy and noisy. These machines that he conceived and produced, bulky and heavy castles of steel, turn out in an hour thousands and thousands of copies of magazines, tens of thousands of photographs, and millions of printed words, which will end under the eyes of a widely-varied public. In Casale Monferrato are born the rotary presses which for years have been printing the largest Italian weeklies, technical reviews, illustrations

for books and encyclopedias. And it was pre-ordained that one day the story of Giovanni Cerutti, the one you are now reading, should be told in a magazine actually printed in a rotary press built in his own factory.

In one of the corridors of the building that houses the technical offices there hangs a slightly yellow photograph. It shows a small dark black-smith's forge in Casale. It was, there, in the narrow smithy of his father, that small Giovanni first learnt to handle the forge, iron, the tongs, screens and nuts and bolts. At the age of eleven (it was 1902) having finished five years of elementary school, like all the descendants of families in modest circumstances, he started to work. He started as an apprentice in a small mechanical workshop in Casale; and naturally, being the "boy", he worked like a nigger. In a short time he learnt a bit of everything, turning, soldering, rivetting, tightening up nuts and bolts.

Eight years later he was a skilled worker; and as such he was employed in the mechanical workshop

of Martina of Turin, an industry specialized in a branch which was then in its cradle ("It will not last", the wellwishers naturally said); the one of cars and motorcycles. At that time a workman earned an average of twenty three centimes per hour; and the wages of Giovanni Cerutti were at once fixed at thirty-two centimes. He was the best paid among the young workmen: a fit acknowledgment of his skill. And naturally when he drew his first "weekly pay-packet" he was compelled to squander almost all of it in a huge drinking party with his co-workers who would have had nothing against making it a tradition in the following weeks. "You are young, anyhow," they used to say. "You have no family to support. what would you do with that money?" And Gioanni had—he says—to sharpen his wits and learn to slip away unseen with his pay-packet in his pocket.

During the first world war Giovanni Cerutti had to remain in the factory which was under the control of the Military Authorities. He had been promoted foreman and at the end of the conflict he was appointed Director.

At the age of twenty-seven he had already reached the top of one career. But in the turbulent atmosphere of the period it was difficult for an executive to be respected even though he was a self-made man, a man risen from the ranks. And the young director had to face many stormy days during which "the hammers were transformed from tools into weapons."

In 1923 Cerutti went back to Casale. He had certain projects in mind and he wanted to realize them on his own. With his savings from years of work, he started a small mechanical workshop employ-

ing two or three men. Four years later, the workshop had expanded and become specialized in the manufacturing of machinery for the textile industry; and it was from there that came the machinery for "Maniseta", the first factory for the working of rayon established in Casale. In 1939, on the outbreak of the second world war, the Cerutti firm had approximately seventy people on its payroll.

The end of the war marked the beginning of a difficult period. Cerutti understood that the industry of textile machinery, because of the change in economic conditions in Italy and in the world and also because of increased competition, was facing a dark future. It was necessary to change course. But which one to follow?

The road was shown to him almost by accident. It was an industrialist, Count Orsi Mangelli, who one day gave him—perhaps without much hope—the task of rebuilding a small rotary press for the printing of cellophane, on the basis of a few photographs. He had ordered it from a German concern during the war; but on its arrival in Italy the machine had been destroyed by bombs. All that was left were a few useless fragments and some photographs.

The task was certainly not an easy one: or at least would not have been easy for a man who was not as tenacious as Cerutti. For days and days he glued his eyes to those photographs trying to discover every detail of the machine; by dint of sketches, drawings, and calculations—helped a little by experience and much of intuition—he rebuilt the mechanism, the individual parts and finally the whole machine. The small machine was born and with it the new idea.

The small machine was based upon the same principle—that of rotogravure—employed in the printing of magazines. A typographic technique that was fairly new as compared to the traditional one; it had been used up till then in a limited way but not on a large scale. Until that time Cerutti had not concerned himself with typography any more than with archaeology. Typography, off-set, rotogravure, printing in three or four colours were for him as unintelligible, more or less, as the hieroglyphics which illustrate the tombs of the pharaohs. But once he had built that small machine he began to get interested, and led by astonishing intuition he reached the conclusion which would determine his own future and that of his firm; Rotogravure is the printing of the future."

It is very surprising to find such an accurate forecast coming from a man who up to the previous day was busy with machinery for rayon; and it is of no use to ask how much he was helped by luck in taking the decision to change the course of Production in his factory. If luck had helped him, undoubtedly his courage has made no small contribution to that luck.

Actually rotogravure printing is the one which has the most promising future, owing to the results it is possible to obtain with it. The substantial difference between typographic and rotogravure printing, at least in as far as the reproduction of photographs is concerned, lies in the dissimilarity of the "screens."

If a photograph printed in a newspaper (typographically) is studied through a magnifying glass, it will be noted that the differences of tone ranging through white and the half tints to black, correspond to the different size of the

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News and Views

An extensive expansion programme for the printing presses owned by the Central Government has been undertaken by the Indian Ministry of Works, Housing and Supplying to enable to cope up with the increased work arising from various development schemes under the five year plan and other activities. In the Government of India Press at New Delhi a new wing has been included for executing the Parliament's work exclusively and a full equipment of Linotype and Monotype Machines for printing Hindi, etc., have been installed. The Government of India Photo Litho Press at New Delhi is also being reorganised and equipped with the latest machinery. It will not be out of place if it is mentioned here that this is the only Government owned Offset Press in this country for printing pamphlets, posters and illustrated brochures in single or multi-colours.

Mr. R. M. C. Nunneley of Winstone & sons Ltd., London has been elected as the President of the British Printing Inks Association for the year 1954—55 at its annual general meeting held recently. Mr. K. B. Parrsch, Auld & Wiborg Ltd., has been named as the Vice-President.

The well known weekly "JUNIOR EXPRESS" published by the Express Newspapers, England, will be printed from

now onwards in colour photo-gravure.

One of Canada's biggest national magazines the "TORONTO DAILY STAR" has set up one of the world's best magazine production plants in Rotogravure in their new premises constructed on the shores of Lake Ontario. From now on this weekly magazine will be printed on the new Rotogravure plant which has 12 units and gives an output of 35,000 copies per hour, stitched and delivered. The colour registration is controlled by photocell electronic equipment specially made in London. The approximate weight of the new Rotogravure plant installed is about 240 tons. Another interesting feature in the printing of this is that a section of the magazine will be printed in letterpress and a section in Rotogravure. The proprietors of the magazine have also designed and constructed a new ink plant which supplies 3 million gallons of letterpress and gravure inks annually and a direct pipe connection has been put in from the ink storage tanks to the Rotopress. All these buildings and plants spread on a seven acre plot are completely air conditioned and carbon dioxide fire extinguishers with automatic arrangements are also linked with the press stock circuit. They have also constructed their own railway siding and a private wharf.

The Central Government have permitted the Government of Madras to function the present printing section of the Central Polytechnic as the Regional School of printing technology from July 1955. It will serve the needs of the students from Andhra, Hyderabad, Mysore, Madras, Coorg and Travacore - Cochin States. The Regional School will have two courses; the All India Certificate Course in printing & allied technology and the advanced certificate course. The former is of 3 years duration (part time) and the latter will be of 2 years duration (part time). Only students who have passed the certificate course are admitted to the advanced certificate course and as such the advanced certificate course will be started only from next year. The existing diploma course in printing technology will continue as usual. It will be merged with the new All India course when it is started. It is also learnt that the Central Government will contribute a part of the recurring and non-recurring expenditure of this new Regional School.

We regret to record the sad passing away of Sri Sudhir Kumar Parmanick, a printer of the Amrita Bazaar Patrika Press on 28th February 1955. Sri Sudhir Kumar joined the Amrita Bazaar Patrika when he was a mere boy and devotedly served the institution for about 50 years. He was

nearly 65 when he breathed his last.

* * *

To meet Sri A. M. Ponnappan, Partner, M/s. Nelson & Co., Madras, the Manager, Shivaji Press, Gunj Bazaar, Secunderabad (Dn.) has arranged a tea party on 4th March 1955 at Taj Mahal Hotel, Secunderabad. Seventy local Printers and publishers have attended the party and a group photo also has been taken on the occasion.

Sri Ponnappan thanked the host for arranging the party in his honour and thereby giving him an opportunity to meet the local printers. Sri Ponnappan has donated Rs. 251 to the Hyderabad State Printers' Association besides the presentation of a "BOOK ON PRINTING" (2 volumes) and copies of the Inland Printer and British Printer magazines for a period of one year.

* * *

The Madras Minister, Sri M. Bhaktavatsalam has stated in the Legislative Assembly that the Central Government is considering a proposal of setting up a pilot plant for manufacturing newsprint from wattle wood pulp of the Nilgiris. He also said that the Forest Research Station at Dehra Dun have indicated the possibility of manufacturing newsprint after conducting research.

From Letter Press to Rotary Printing

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Lithography both direct and offset, colour-type or photo-gelation and aqua-colour.

In India printing was introduced by a Jesuit Priest of Goa in the 15th Century. Then in the 16th Century one of the Portuguese missionaries printed two books in Roman letters. Madras Government

gave permission to the missionaries in 1781 to erect a printing press in Madras. The ban on establishing printing press in India was lifted by Sir Charles Metcalf in 1863 and this led the Indians to be interested in this line. The first book published in Bengali was a grammar from Sreerampore. Panchanan Karmakar was the first Bengali type cutter. So excellent was his sense of type cutting that ever since the matrix cut by him remains as a model for casting Bengali types. Besides, Bengali, he cut matrices for English, Chinese and even Sanskrit.

But, as in many walks of life, this industry also does not enjoy total perfection and modernisation in India. Having realised the immeasurable scope of this Industry our Industrialists and popular Government should come forward to fill-up the gap.

(Courtesy: Amrita Bazar Patrika)

Spotlight on Persons & Firms

(Continued from page 18)

dots into which the photographs appear to be subdivided. It is these dots which are known as a "screen" in technical terms; and their size varies with the intensity of the tone. Since in typographic printing, text and illustration are reproduced "in relief" on plates of metal alloy on which the ink is spread in constantly uniform quantities by ink rollers, it is evident that it would not be possible to obtain diversity of tone except by varying the size of the dots in the screen. In other words, the strongest tonality will correspond to the largest dots; a tonality which will slowly fade as the dots become smaller.

Rotogravure printing, instead, is not made in relief but by "incision" and the dots of the screen have a constant and equal size varying only in depth. Still taking the reproduction of a photograph as our example, on the copper cylinder used in rotogravure printing there can be seen many cells (corresponding to the dots on the screen) of equal size but different depths. The rotating cylinder dips into a concave container full of ink; a blade in contact with the metal surface scrapes away the superfluous ink from the parts without incision (which correspond to the white areas in the photograph) leaving it only in the cells. The paper pressed by a rubber roller against the copper cylinder absorbs the ink contained in the cavities which have a maximum depth of 7-8/100 of a millimetre. These cells, because of their varying depths, act in such a way that the paper absorbs different quantities of ink. The greater the depth, the larger the quantity of ink absorbed and therefore the stronger the

tone; the intensity of tone diminishes as the cells grow shallower.

By this different process, it is possible to obtain, in rotogravure printing, continuous, soft tones, almost similar to an original photograph without those abrupt leaps in tones and the effect of flat greyness that is typical of the typographical print on paper of common quality such as is used for newspapers or periodicals.

Naturally things are not as simple as they appear here. Before arriving at the final phase, represented by the ribbon of paper which is stamped by the machine, there is all the work of composition, printing, photographic reproduction, mounting and incision, which in rotogravure technique is completely different—except for the first phase composition—from typographic technique. And this helps a little in understanding what were the difficulties that Cerutti had to overcome when he decided to dedicate himself to the new activity.

It was a long and patient task which for Cerutti and his two sons meant days and nights spent in studying. It was also necessary to study on the spot the working of the rotary presses installed in some of the Italian printing concerns in order to work out the first projects.

We do not know how many people took seriously that little man who was wandering inquisitively among the huge and noisy machines, but those who had judged him a visionary remained rather surprised the day that a magazine printed in rotogravure on one of the rotary machines built in Casale Monferrato by Giovanni Cerutti arrived from abroad. After years of painstaking work the tenacious Piemontese saw his dream come true; and his first rotary press was bought by an important foreign printing concern. It was a machine

with five elements: to give an idea of what this means, enough for the printing-at the rate of five to six thousand copies per hour-of thirty-two pages at a time (eight of which have one other colour beside black).

When the Editor of "Tempo" in Milan was faced with the urgent question of establishing his own printing-house in order to meet the increased circulation of his weekly and of the other publications of the "Editariale Milano Nuova" and while he was negotiating for a rotogravure press from a German factory, he was informed that in Casale Monferrato Cerutti had built the rotary press destined for abroad and was in the process of testing the printing before dispatching the machine.

Showing a certain courage and initiative, the Editor decided to give his support to the new Italian industry and ordered from Cerutti a rotary press of seven elements and two "folds."

The care with which Cerutti handled the manufacture of this first rotary press destined for Italy and which was a decisive test, was crowned with success and "Tempo" was among the first Italian Weeklies to appear in colour in rotogravure, with covers which were a surprise to all the experts. Several Editors had, at that time, ordered rotary presses from Germany or America, believing that they would get better products because of the long experience of the factories concerned. The most exacting critics had to revise their opinion and in addition to Amilcare Pizzi, who ordered a rotary press from Cerutti shortly after the Editor of "Tempo", orders followed from the largest Italian printers in the rotogravure branch.

Rizzoli, Mondadori, Tuminelli and others are today the clients of



Photo taken at the dinner party given by the Secunderabad Printers on 8-12-54 to meet Sri T. S. Shanmugasundaram B.Sc., Junior Proprietor of M/S. Swadesi Type Foundry, Madras

Cerutti and the Editor of "Tempo" himself is shortly expecting from Cerutti a new large rotary press.

Since then (1949) two hundred elements have started operating in Italy, in several European countries and in South-America; and the latest models of these forty rotary presses (the average machine of this type generally consists of five elements which correspond to five cylinders) can hold their own with the machines produced by the most progressive foreign factories both in the speed and in the precision of colour printing (the latter rather a complex feat, especially, when it is a question of running through the ribbon of paper at the high speeds demanded by the printing of news).

Instead of the two to three workmen he had on his pay-roll when he first opened his factory in 1923, Cerutti has now more than two hundred employees. In his factory he manufactures not only rotary

presses but also some of the auxiliary machinery needed for the printing rollers.

But the first and most important machine is Cerutti himself. A terribly intelligent and tireless machine, always in motion from morning till night, who wants to see everything and know everything, who does not miss even the smallest detail and has always a suggestion to put forward or a modification-if such a case arises-to make. Theory without practice is not sufficient; this has been his guiding rule in fifty years of work; and his two sons have been brought up in the same school. Before and after taking their degrees, one in Commercial Science the other in Engineering, both learned how to use the file and the lathe in their father's workshop.

Only on Sundays does the slight builder of huge machines stop and allow himself a little rest. But even then it is not a real rest. Not

being able to distract himself any longer with football (for forty years this has been his favourite pastime) he spends his time in the country. Clad in his old working suit he goes around orchards and vine yards and while he is trying up a trailing vine-shoot or pruning a hedge it is a fair bet that he is thinking of some way of perfecting his machines.

From Our London Correspondent

(Continued from page 14)

"Lassomount" is a self-adhesive or pressure-sensitive sheet coated on both sides, and the material itself is interleaved with a separating film which is moisture sensitive for quick and easy removal. There is no gauze to remove, because this product is backed with a transparent plastic film easily removed by applying water. The material is manipulated with ease and the adhesive surfaces, should they meet, may be separated without difficulty.

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Graphicus

In these pages - "GRAPHICUS" - we focus on the printing and allied industries. Every month the Pressroom problems of the printer & all questions should be addressed to "GRAPHICUS" c/o PRINTINDIA

13. Q. We were recently varnishing the front cover of a magazine in a cylinder machine. As we had to varnish more than 9,000 copies we had to think of a medium for interleaving. We ultimately used kraft paper for interleaving purpose. The result was very unsatisfactory. We found the kraft paper pasted here and there on the varnished cover and further the ribs in the kraft paper were also marked out on the varnish cover. Will you kindly suggest us an interleaving medium to be used in varnishing which does not spoil the varnished product?
- A. The best medium for interleaving varnished work is a good hard glazed butter-paper. Do not pile too many sheets on top of one another, 25 to 30 is enough, and be sure to spread them out well. Use the overprint varnish as sparingly as possible on the run.
24. Q. Which is the best fluid we can use in the spray of our automatic machine to eliminate set off?
- A. In this matter you will have to contact the agent who sold the spray outfit in the first place or the manufacturer in order to obtain the correct fluid.
25. Q. We are doing a good deal of book work. The folding for all the books is being done at our press manually. I recently saw a folding machine at the Printers' Exhibition which gives 3 folds. The size of the books we print is Crown Octavo. Please let me know whether the above machine with 3 folds will suit us and also inform us whether we can save much by buying the above folding machine.
- A. Not having seen the folder you mention I cannot advise you in regard to the particular machine which you saw at the Exhibition. Folders properly used and operated do save time and money if there is enough work to keep them running.
26. Q. We recently purchased some tins of zinc white from a printing inks dealer. Some of the tins were opened by us and the ink was used for a job. When we looked into those tins again a few days back we found that the ink has dried up. Is there any defect in the ink purchased by us? We also request you to suggest methods of properly storing inks in our pressroom.
- A. The fault in this case could be yours or the fault could be with the ink. It is not possible to say without further and detailed information. Always store ink in a cool place. Never stock more than you have to, having regard to availability of supplies. When using partly used ink smooth it down in the tin, replace the butter-paper over it and be sure the lid is on the tin before putting aside for future use. Never keep the ink from the duct of the machine for more than a few hours. Many printers, when a job is finished, try to preserve the ink left in the duct of the machine for some future job. This is not advised.
27. Q. Recently we have printed 10 x 15 size halftone blocks on a solid tinted background on proven white art paper. In spite of mixing substantial quantity of drier in the inks, the printed surface did not dry for over a fortnight and white thin particles appeared on the printed surface which made printed picture dull. Please clarify and suggest a remedy.
- A. From what you say you may have added too much of the wrong drier. Always be careful when adding driers not to use too much. Also the correct drier to suit the ink must be used. On this point consult your ink manufacturer. If you send a sheet of the printed matter I may be able to advise you in more detail.

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