PRINTECH

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Printech

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OF THE INDIAN FEDERATION OF PRINTING TECHNOLOGISTS, MADRAS

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D. RATHNASWAMY

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CONTENTS

Care & Maintenance of CUTTING MACHINES

No job is printed without cutting sheets in some way or other. It is the cutting machine that should provide solutions to all cutting problems. But the knowledge of the average operator about his cutting machine and the care he needs to take about the knives is really very inadequate in this country says the author, and gives here practical hints.

By V. O. OMMAN, L. P. T., Full Tech C. & G. London.
Asst. Manager, Govt. of India Press, Nasik.

THE average printer in India has a paper cutting machine of the simplest type operated by hand. This is because majority of the presses in India are small in size, and work turned out by them and their capital outlay not permitting machines of better quality and efficiency. Only larger presses have power-driven paper cutting machines. It will not be surprising to find in India several small presses not possessing any cutting machines at all, their paper cutting being done at other presses which have machines and capacity. Thus it will be seen that some presses find a source of income by undertaking certain operations of a printing job for the small printer. Facinating it will be to make a study of paper cutting machines, their operations and maintenance in India by small and large printers.

Cutting is one of the most important working processes in a printing press. Papers of varying grades such as fine paper, writing paper, news print, packing paper, craft paper and various kinds of card boards come within the range of a printing press which does commercial printing. In all these cases cutting into smaller sizes of these papers would be necessary and the printer should be therefore equipped with machines to do the cutting work. His cutting machine should provide solutions for all possible cutting problems. Slitting and cross-cutting are done on ordinary cutting machine. A lever cutting machine can do all the plain cutting work. High speed cutting machines run on power can ensure large turn over. Power driven machines are either equipped with normal clamping devices or with fully automatic clamping motions. Special machines are manufactured to withstand severest strains and are provided with practical equipments required for cutting paper and cardboard. Three-side trimmers are available for the cutting of finished books. These machines are now available for continuous operation and are fully automatic.

There are some indigenous makes of cutting machines now available, mainly the hand operated type. Most of the power-driven machines are imported, popular among them being 'Diamond' and 'Ace' of U. K., 'Seybold', 'Lawson' 'Challenge,' 'Chandler and Price,' etc. of America and variety of makes from Germany, Italy, Switzerland and other European and Scandinavian countries. The knowledge of the average operator about his cutting machine and the care he needs take about his paper knives is really very inadequate in this country. This may be due to the lack of training facilities in presses and general dearth for industrial schools or other vocational institutions which impart training in such trades. In many instances, untoward harm to machines and knives is done by ignorance of the correct way of working. It is a matter of knowledge to decide as to when sharpened blade should replace used blade, etc. Let us therefore make an attempt to know something about the care and maintenance of paper cutting machines in general.

Systematically, all cutting processes can be divided into two

groups which are distinguished from each other by the fact whether cutting takes place with or without a counter blade. The two plain tools, scissors and knife, are characteristic of these two groups.

The Two Groups

In the machines of the first group working with a top and bottom blade, the cutting line is is generally entirely free from grates. The simplest example of this group is the versatile card-board cutter, constructed as lever cutters, for straight cutting. Circular cutters, also form part of this group of scissor-like cutting machine. The light circular cutter combined with creasing and scoring equipment for working card board sheets is a typical example. The second group of cutting processes includes the punching machines and guillotines. Cutting is carried out here against a base, the quality of which is determinative for the clean cut of the downmost sheet. A horizontal reversing motion is performed in the cutting process assisted by an angle movement to facilitate easy cutting and avoid grates. The major part of all cutting work in a printing press is done on this type of high-speed cutters which can cut up to lengths of 60 inches or more.

Three-knife trimmers are designed on the same principle, the difference being that for trimming books and periodicals all operations are automatically performed instead of individual cutting of the sides, once the pile has been placed in position. There are new machines available on which large sheets in piles can be cut on all four sides in one operation as the table is moved into and out of the machine and turned automatically. From this general description of cutting machine development, we realise that today there are machines available to satisfy the most diverse requirements of cutting work even with regard to the quality of the products.

Lubricating

Proper maintenance of cutting machines involves several checks and observations. Uniform and regular lubrication is of great importance. A hard worked cutting machine need be lubricated at least twice a day. The operator should be conversant with every oil hole of the machine and such other parts and gears where oil need be supplied. A satisfactorily lubricated machine will ensure smooth running and it will produce less noise while working. Its working life is enhanced and wear and tear reduced to minimum. Take care to use the correct grade of lubricating oil—neither too thin nor too thick. Suppliers these days even recommend the best oil suited for the machine.

Setting and adjustment of the working parts of a cutting machine also need constant check up and correction. Every time a knife is replaced, make sure that its level is even and falls flat when reaching the bottom limit. Continued cutting of hard papers on one side of the knife can also render the level uneven. There again a checking up for evenness of the blade level is desirable. Back slide gauges often go out of square and loose if left uncared for. Regular checking up and resetting of the guages at right angles to the side lays which are permanent fixtures need also be remembered.

Auto Brakes

The graduated measure tape attached to the back gauge for setting measure on a cutting machine also can go out of proportion if left uncared for a long time. Occasional counter checking of this measure tape will help matters considerably. Auto brakes of modern power driven cutting machine call for frequent attention as otherwise it can cause serious breakdowns. Several machines are provided with leather friction washers which if not replaced in time can let loose the cutting blade resulting in very serious accidents.

All modern paper cutting machines are provided with wooden cutting sticks to receive the impact of the blade while cutting. These sticks are enough to ensure clean cutting without grates even to the downmost sheet of a pile when correctly adjusted. But I have seen that very few people have really understood the function of these sticks. Instead of correctly adjusting and using these sticks enormous wastage is caused by using card boards at the bottom of paper piles in a cutting machine. Excepting in specific instances where the use of card board is absolutely essential, this practice should be discouraged.

To be continued

Designing of Federation Emblem

COMPETITION RULES

1. The competition is open to all grades of Members of the IFPT—Full members, Associates and Students.
2. The design should preferably incorporate the figure of an instrument, article or any object (one or more) relevant to the Graphic Arts and should carry either the letters IFPT or the words Indian Federation of Printing Technologists or both. Designs with pure lettering will also be considered. The design should be purely a line drawing to enable a line block to be made for letter-press printing.
3. The shape of the design should preferably be vertical or oblong. Other shapes will also be considered. It should fit in well with letter-heads, envelopes and other stationery used by the Federation.
4. The original design should be 3" x 4" to enable production of blocks to suitable reduced scales.
5. If the member wishes the design to be reproduced in more than one colour, the colour scheme should be shown separately in a rough sketch. Not more than two colours should be used.
6. The finished design should be drawn on a drawing paper or board in indian ink with wide margin all round and nothing should be written on the front side. The name, address and the grade of membership should be typed on a separate sheet and pasted to the back of the drawing in a corner, away from the design proper.
7. A member can submit more than one design, but each design should be drawn on a separate sheet with particulars at the back of each, and numbered.
8. Send your entries flat, well packed, by Registered post to the Hony. Jt. Secretary, Indian Federation of Printing Technologists, 26, Broadway, Madras, **so as to reach him not later than 15th March 1954.** Mark your envelopes "Emblem Competition."
9. The results of the competition will be announced in *Printech.*

Method of Selection

Entries received from Full Members, Associate Members and Student Members will be first judged together to choose the winning design. The entries will then be divided according to grades of membership and the best design in each group will be chosen. Suitable prizes will be awarded to all these winners.

Conditions

Entry into this competition implies the acceptance of the following conditions :—

(i) The designs submitted become the property of IFPT.

(ii) *Printech* has the right to reproduce any entry.

(iii) In all matters arising out of this competition the decision of the Executive Committee of the Federation shall be final and legally binding.

PAPER PROBLEMS-3

PRINTING WITH HIGH GLOSS INKS

by FREDERICK T. DAY

THERE is no doubt whatsoever, that the added appeal given to the printed word as a result of the use of High Gloss inks is growing rapidly among print buyers and print users. Even the business executive is fast becoming attached to this added appeal of the sales piece he receives which has been printed with one of the series of high gloss inks now available. High gloss inks are indeed, in many cases, so brilliant in appearance that they have the "atmosphere" of a varnished piece of printing. This fairly recent contribution to the printer's art, can in some cases, replace the additional process of after-varnishing, so that direct printing with glossy finish may be incorporated into label work of all kinds, box tops, window bills and streamers, display work and showcards, and many other types of printed work where added appeal is desired. Printed matter carried out by direct glossy surface inks which give a hard and brilliant finish, can in many cases, effect appreciable savings. The extra press run on the machine which is a eliminated by the use of one of the glossy inks now made must result in labour and cost saving on the run.

Early Obstacles

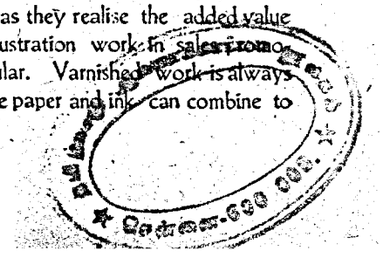
In the early days of experiment, there were some obstacles to overcome. In the first place, an overprint varnish was invariably printed on a previously printed ink. The gums and resins which gave it its glossy-like character were, therefore, prevented from "sinking" into the paper, but upon the addition of colour, and only a single impression used, the ink penetrated the paper's surface and this resulted in a piece of printing which dried with very little, if any, brilliant appearance.

As in all departments of experiment, trial and error has largely influenced the manufacture of current glossy ink supplies and this initial difficulty was overcome by suitable paper surfaces chosen for the printing process.

Paper is an important matter is printing glossy inks, and hard sized papers with good crisp and closed surfaces will produce the best results. This has overcome the likelihood of ink penetration which had been a factor in the machining of such grades of ink. Perhaps one day special grades of paper will be graded as high gloss printing ink papers and in this way the printers will have regulated guidance in the choice and usage of paper.

Spray Gun

Another important factor in the use of such inks is the use of the non-offset spray gun which is of course essential in ths machine room. No more spray is necessary for the drying off process unless the paper used for the job is a heavy-weight substance grade. It is obvious, if that paper chosen for the job is selected because it will assist against penetration, the ink will lie on top of the surface of the paper and will therefore require some protection until it is quite dry. The spray gun therefore is essential in the printing process. There is no doubt, that, much more development is possible and this will be achieved as time goes on as a result of co-operation between the paper maker and the ink maker who will benefit from the experience of the printer in the perfection of glossy inks simple and easy to work on the press. There is no doubt, high gloss inks are being specified more than ever by the paper and print buyer and user as they realise the added value of lustre to colour illustration work in sales promotion matter in particular. Varnished work is always in demand and where paper and ink can combine to



eliminate the necessity of some jobs being spot or all over spirit varnished as an additional process to printing, it seems reasonable to suppose that glossy inks can serve a useful purpose to commercial printing, and print users.

Some printers have experienced some difficulties in using these comparatively new glossy inks and the following working hints are given and it is hoped they will prove helpful.

In addition to suitable paper and use of the spray gun, careful make-ready is important. With regard ro paper, the ink supplier will be glad to check the proposed stock chosen for the job if there is any doubt. Some printers prepare make-ready with ordinary grades of ink on account of the quick drying out of high gloss inks, but this does not appear to be essential.

For Colour Jobs

Press room temperatures should be between 65 degrees and 75 degrees. Excessive heat may cause sticking.

Dope should not be added to high gloss inks as most grades are suitably adjusted and the effect and drying time may be affected if any additions are made.

Where a job is being carried out in two or more colours, the second and additional colours are put on as speedily as possible. The colours should be speeded up for obvious reasons and this medium will ensure the maximum high gloss effects.

Finally, it will be a matter of trial and error for individual printers to decide, but generally speaking, it is found that paper delivery should be kept down to between one or two reams and even less. In the case of new experience, a half to one ream of paper will be preferable to a larger delivery of paper stock. —By Courtesy of *Paper & Print.*

One hundred per cent of the printing works and nearly all other graphic arts establishments are now nationalised in Poland.

BOOKS RECEIVED

Machine Room Hints by G. C. Natarajan, formerly Superintendent, Govt. Press, Nagpur. Sent by the author.

Practical Binding Terms compiled by 'A Binding Lecturer' and published by Commercial Combine, 8, Mohamed Hussain St., Madras 14.

Beginner's Guide to Typographical Layout by S. K. Thamba and V. S. Krishnamurty. Published by S. Srinivasa Rao, 30-A, Audiappa Mudali St., Vepery, Madras 7.

Story of Mysore Paper Mills—Booklet.

Specimen Sheets of Papers manufactured by Mysore Paper Mills—Album.

REVIEW

TOUR PROGRAMME OF BANGALORE INSTITUTE

WE have received copies of the Tour Programme organised by the Printing Section of Sri Jayachamarajendra Occupational Institute, Bangalore.

The tour begins on 23rd December 1953 and ends on 10th January 1954, and covers a number of important cities like Hyderabad, Nagpur, Delhi, Allahabad and Calcutta. Many large printing establishments are included in the itinerary, apart from places of general interest.

The programme is in the form of a 12-page brochure measuring 5" wide by $3\frac{3}{4}$" deep printed on art paper using two colours—red and blue—for the inside pages. The cover which is also of the same stock, is well designed with silver tint background in the middle portion. The programme for each city is given on a separate page with drawn rule border and insignia of the institute in a corner, repeated in every page.

The production which is the work of students is praiseworthy for the design as well as printing. We also congratulate the authorities of the Institute for conducting this long tour regularly.

FOR STUDENTS — 5

STORY OF TYPE CASES

NO one seems to know when or by whom the present form of type cases, with their upper and lower cases, was invented. The only guide we have to the patterns of the cases used by the early printers is that given in old engravings. One of the earliest is found in a book, "The Dance of Death," printed at Lyons in 1500. It shows among other things, a square type case, resting flat on two trestles, with the copy stuck on a piece of wood; a seated compositor holds a kind of stick in hand. Seven years later Jodocus Badius began to use as his mark a drawing of a printing office, the main feature of which is a press, but on the right hand side, rather in the shade, can be seen the compositor who appears to have a single oblong case, set on a frame at a sharp angle. A representation of an Antwerp printing office on a larger scale was published by Stradanus about 1600. This picture shows three type cases, each being a single case, two oblong and one square in shape. Again the compositors are seated. Against this evidence we have the reconstructed workshop of Gutenberg at the Museum at Mainz. This shows a pair of cases of the ordinary and familiar design, placed on a frame at the same slopes as customary today. This arrangement, however, can only be said to be a very bad guess.

When we come to more modern times we are on surer ground. Moxon in his "Mechanick Exercises" (1683) illustrates a pair of cases almost identical to those used today. Since his time, only minor changes have been made, with one or two evolutionary proposals, such as the Caslon New Lay, which however, failed to gain acceptance. Among those who proposed slight changes in the lay were John Smith in his "Printer's Grammar" of 1754—Smith, by the way, was the first to include small caps in his upper case—John Johnson ("Typographia," 1824,) and William Savage ("Dictionary of the Art of Printing," 1841). When the California job lay came to Britain it met with approval, but a discussion of these double cases (not half cases) must be left until another time.

The English-speaking countries are fortunate in having only twenty-six letters to their alphabet, very different from the Chinese compositor who has 40,000 ideographs to play with. His type case is of several designs. One is a very long, gently sloping frame about 6 ft. high; in another design the frames are placed back to back like the sides of a cap A.

Who was it who asserted that Chinese Compositors needed roller skates?

Charles T. Jacobi, in his "Gesta Typographica," has a pleasant story about a Japanese Compositor setting type. He says: "As there are 4,000 characters in the language in common use, and others less frequently, he cannot reach them all. Instead, he sits at a desk containing the characters called *kana*, or connections, of which there are forty-seven. He cuts up his copy into small pieces, giving each to a boy, who goes trotting about the alley singing the names of the characters he seeks until he has found them all, when he carries them to the type-setter, who puts the letters together with the *kana*. As all the boys sing *at once*, and the proof-reader sings to his copy-holder, the noise is terrific"—By courtesy of *The London Typographical Journal*.

During seven months ending July this year Britain exported to India 752 tons of printing and book-binding machinery, valued at £ 4,28,000 (nearly Rs. 58 lakhs.)

ODDS AND ENDS

Collected by 'Pearl' & 'Ruby'

Linotype Presented in 3-D

The first 3-D, full-colour views of typesetting machines were presented by the Mergentaler Linotype Co. at the recent Pacific Newspaper Publishers' Associated Mechanical Conference in Los Angeles, U.S.A. Projected from stereopticon slides, the views showed Wide Range Linotypes.

"Use of 3-D enabled the audience easily to perceive the various parts of the machines pictured and to understand the new features," said Mergenthaler Director of Trade Relations, who attended the conference, and added, "With 3-D we obtained much more realism than with two-dimension views, and the audience can see a linotype as it really is."

* * *

A Monumetal Publication

A British printing house, Dawson & Goodsell Ltd., has secured an international publishing contract of some importance. The publication is the official record of the recently held Congress on Fishing Boat Design, in Paris, which was organised by the Food and Agricultural Organisation of Rome, as a service to collate the up-to-date knowledge of the world on fishing craft to help under developed-countries.

The book will be monumental in scope and will cover a field in which there is no similar comprehensive publication. Based on the 65 expert and authoritative papers, the work will run to over 300,000 words, include some 600 illustrations in half-tone and line, be bound in full cloth and be gold blocked with a handsome dust cover. When completed it will exceed 4 lbs. in weight. Priced at £ 4. 10s. (about Rs. 60) it will reach a select technical world audience.

* * *

Modern developments in German composing room equipment and layout include the adoption of seats for compositors, involving a horse-shoe layout of the cases and, finally, of flat tables, with type drawers, instead of inclined cases.

German Press for "Times of India"

Maschinenfabrick Augsburg-Nuremberg AG (MAN) will deliver shortly what is claimed to be the biggest multicolour rotogravure press constructed since the war in Germany to *The Times of India*.

It is stated that the order was obtained in the face of world-wide competition, and that the building of the machine was completed in the short space of 12 months. Maximum running speed is 15,000 revolutions per hour and the maximum production is 96 pages, of which upto 16 pages can be printed in various colours.

At present MAN has on order a further 100 printing rotary presses, of which a great part are for export

* * *

75-Year-Old Weekly Changes Name

The British & Colonial Printer, the only weekly newspaper for printing trades and one of the oldest printing trade journals, now in its 75th year of publication, has announced the change of its name to *Printing World* as from January, 1954.

Explaining the decision to change the name, the Managing Director, Stanley J. Gillis, in a statement, says: "While we believe in tradition, at the same time we feel that the time has come to modernise the title of the printing trade's only weekly newspaper. Changes in world affairs make the world "Colonial" inappropriate today. We have chosen a new title. We know that the old name *British & Colonial Printer* will be remembered throughout the industry, but we feel that *Printing World* is a much broader and appropriate title and I am sure the newly-named journal will go from strength to strength."

Printech, the youngest of printing journals, wishes every success to *Printing World*. We are sure that *Printing World* will be comprehensive in its news coverage and will justify its well-merited title.

DEVELOPMENTS IN

EQUIPMENT • MATERIAL • PROCESS

Collected by 'Pearl & Ruby'

Three-knife Auto Trimmer

To help speed up the final stages of book production the Soag Machinery Co., of London has introduced the 'Vale' automatic continuous three-knife trimmer. The machine has been designed to work in conjunction with the Automatic Gather-stitch and similar gang stitching machines. The "Vale" is simply coupled up with one of these machines and the combined unit then collates, stitches and trims in one uninterrupted sequence.

The trimmer has a fully variable speed range from 1,500 to 4,000 cuts per hour to synchronise with the stitcher. It will trim books in sizes from 7" by 4" to 11½" by 12" up to ½" in thickness. To change from one book size to another requires little time and for this reason shows as big a time saving on small runs as the large ones. Motor for the trimmer is a Reeves fully variable drive, easily adjustable by a hand wheel at the rear of the machine.

* * *

New Printing Roller

A new printing roller is in the offing. Made from a rubber mixture evolved after four years' research, it is at present undergoing extensive tests in the works of a number of manufacturing firms in Britain. Initial reports are favourable, states *Paper and Print.*

A feature of the rubber mixture is that it can be moulded with the same equipment as at present used to make gelatine rollers. Previously rollers made from rubber had to be moulded in two halves and then moulded together. This method entailed additional costs because the seams, formed where the halves were welded, had to be ground smooth. The new mixture can be poured at room temperature of 40°C. This new mixture has been evolved by the Rubber Technical Developments Ltd., a British firm.

Cutting and Creasing Press

Of interest to box makers is a new heavy-duty cutting and creasing press manufactured by the Thrissell Engineering Company, Ltd., Bristol. The press can handle all qualities of corrugated board and solid fibre boards, varying between ·120 in. and ·025 in. thickness and 22 in. by 30 in.—11 in. by 15 in. in size.

Automatic feeding of blanks into the press from a hopper boosts output to 2,700 an hour compared with 1,800 an hour by hand. The blanks, which straight pass through the machine, are cut and creased by the action of a rolling quadrant operated by a crank and then automatically stacked on a receiving table.

* * *

Printing Paper from Bagasse

The Forest Research Institute, Dehra Dun, India has succeeded in making printing paper of good quality from bagasse and bamboo pulps. The paper was made on a commercial paper machine at a high speed of 312 feet per minute. This trial showed that bagasse stock mixed with bamboo stock can be run on commercial paper machines. It has also been found that insulation boards can be made from pith separated from bagasse. Wrapping papers of high strength properties were also made on a pilot plant from castor stems.

The institute is also engaged in research on saw dust boards. Two ceilings of attractive designs made from the boards developed during this research have been put up in the plant laboratory.

Bamboo material has also been found useful for making snow shoes. Roof sticks for lorry bodies have also been made out of wood after proper treatment for bending.

Members who have enrolled between August and Dec. 1954

FULL MEMBERS

1. Bimal Chandra Datta, Manager, Map Production Offices, Survey of India, Dehra Dun, U. P.
2. Kothandaraman, S. V., Asst. Foreman, Photo-offset Dept., "The Hindu", Madras.
3. Rajagopalan, K., Manager, The Solar Printers, Madras.
4. Venkatraman, R., Press Supt., The Madras Law Journal Press, Madras 4.
5. Subramanyam, T. K., Secretary, The Mathurai Co-operative Printing Works, Ltd., Madurai, (S. I.)

ASSOCIATE MEMBERS

1. Sadagopan, V. S., Student Apprentice, Govt., Press, Madras.
2. Riasath Ali Hashmi, M., Hyderabad.
3. Ramachandran, T. N., Printing Machinery Consultant, Madras.

STUDENT MEMBERS

1. Anjaneyulu, Y.
2. Abdul Khader, S.
3. Gopalan, V.
4. Gajendran, S.
5. Jayaraman, A. G.
6. Kotiah, V.
7. Parthasarathy, S.
8. Pradhan, P. K.
9. Parthasarathy, B. S.
10. Ramalingam, D.
11. Ramanathan, S.
12. Rangaswamy, S.
13. Subramanian, R.
14. Srinivasan, P.
15. Thirunavukkarasu, A.
16. Vedagiri, G.
17. Viswanathan, N. S.
18. Velumani, N.
19. Arumugaswamy, A. S.
20. Sivanandam, V.
21. Anandapathmanabhan, T.
22. Jayasankaran, J.
23. Krishnamurthy K. N.

Federation Notes

Change in Executive

Sri M. D. Krishnaswamy, one of the Executive Committee members, who has gone on promotion as Chief-Reader in the newly-formed Andhra Government Press, has sent in his resignation owing to his inability to attend the committee meetings. The Executive at its monthly meeting accepted the resignation and thanked him for all his co-operation in Federation work till now. Sri V. S. Krishnamurty was co-opted in his place, unanimously.

* * *

Acknowledgement

We convey our sincere thanks to Sri V. Varadarajan, a full member employed in Calcutta, for all the help rendered to the Federation and for the active part he is taking in furthering the cause of the Federation in Calcutta.

* * *

Introducing Members

We introduced some of the members through the pages of *Printech* in the first two issues. It is our desire to have it as a regular feature. Hence we request every member to send a brief account of his life accompanied by a block of his photo measuring 1" wide by 1½" deep, of 85 screen. As many of the members are spead out over a wide area and have the least opportunity to meet together and get known to each other, we hope this feature will help to bring us into closer contact and will afford an opportunity to the non-members to know about the membership of the Federation. We hope members will respond to the appeal without delay.

Bring in More Members

We request the members who have already joined, not to be content with that but work hard to bring in more members. Please find out whether your friends have joined and furnish the names and addresses of those who have not yet done so. We will be glad to send the Application forms to them.

* * *

Change of Address

Members are requested to notify the change of address, if any, to the Secretary of the Federation to ensure the delivery of your copy of *Printech*.

* * *

... And Designation

They are also requested to send us information regarding change of designation, transfer or promotion so as to keep our files uptodate. Such news will also be published in *Printech* unless otherwise desired.

We will be always glad to publish news about the activities of Members which will be of interest to the industry in general and the Federation members in particular.

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Copies of Certificates

A few members have not sent copies of their diplomas and certificates. They are requested to send them forthwith.

* * *

Contributions to Printech

The Hony. Editor of *Printech* invites contributions on Graphic Arts subjects from members. He will be available at his office, 26, Broadway, Madras, between 11 a. m. and 12 noon.

The Cover of this issue is printed on a
GATEWAY PAPER, "Proven" White Art,
Double Crown, 45 lbs., 500 sheets.

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CONTENTS

The Role of a Printing Assistant

The Printing Technologist, at some time or other in his career, might be called upon to work out a plan for starting a press. It may be for a private financier, or for a large industrial firm, for some societies like the Theosophical Society or for a municipality. The author of this article who has experience in the field sets out the problems facing such a planner (whom he calls a Technical Assistant) and explains how they are to be tackled.

BY M. S. KRISHNAMURTHY, B. A., L. P. T.
Private Printing Consultant

EVERY industry requires countless numbers of letter-heads, forms and other stationery articles for their daily use and these are to be printed and supplied by the Printer. It is not an exaggeration to say that no industry can go on without the aid of a printer. Large-scale industries like the Imperial Tobacco Company have their own presses which form part and parcel of their general establishment. Some Societies either take a press on lease or give accommodation in their buildings to a printer, as is done by the Theosophical Society at Banares, to cater to their needs. Similarly, some large administrative offices also own their press which supplies them with their normal requirements of letter-heads, ledgers, forms, etc., besides doing all confidential works.

A word about the printing industry of today is necessary at the outset. It has been of common occurrence, that many presses have come up and changed hands constantly. If only a little thought is bestowed for its root cause one will easily find that Printing Industry itself appears to an ordinary lay man as a business which requires no skill but finance and a mind to start it. With the song of Scylla and Charybdis, this industry has attracted many a business man and shattered him to pieces on their rocks. It is high time one learnt and realised the important lesson that the printing press and the printer are something more than what they appear to be outwardly. If this is remembered and action is taken in right direction, the owner of the press, whoever he might be, will have no cause to regret at a future date.

Bearing these facts in mind, the Technical Assistant had with confidence go about his work. Institutions expending large sums of money on printing can have a printing press and show considerable savings in the expenditure under printing charges. It is also necessary to state that, due to more than one cause, some of the class works which cannot be expected to come up to the mark in their press, may be given to other printers who have the necessary equipment for it and thus a specialist in the line. This will not mean a defame or under-estimating the work of their press and printer; but on the other hand it goes a long way to feed the specialist. "Live and let live" will be a very good motto for a printer. This class of work will make the specialist improve the standard of work and thus produce works of outstanding quality. When quality work is put by the side of its antithesis and exhibited, the public will see things for themselves in right perception, judge the work and know the printers' capabilities. The object of mentioning these facts is that

all institutions have their periodicals, annual and special numbers which are class works. In majority of cases, the institution press will not be in a position to do these. It must also be remembered that any work can be executed by any press provided there is sufficient equipment and there is a Printer. That is very essential; but it is the most neglected one, in keeping with the ways of the world in which Jean Jaque Reausseau says of man, "Man is born free, but is found everywhere in chains."

Standardization

For example, a municipality wants to have a printing press and takes steps to start one. As a technical man in printing he should examine all the forms, ledgers, reports and other periodicals that are issued from time to time with the same intensity as a Cost Accountant does on the bills of past years to arrive at the percentage to be charged on estimates for "Overhead Charges" and "Handling Charges." The annual requirements of those forms, ledgers, etc. must be correctly assessed and if possible, the forms and ledgers may be reduced to standard size, if necessary in which the paper is available. Thus, the printing requirements are reduced to multiples and sub-multiples of some standard paper size; in doing this, it should be borne in mind that such an act does not sacrifice the clarity. The object of such standardisation is to place direct orders, if need be, on the paper mills for its paper so that it may be independent of the local paper market. Secondly it will not be a competitor in the local paper market and thereby enable the local printers to have their supply of paper uninterrupted even in times of paper shortage. Here also the policy of "live and let live" comes in handy and works out to the good of everybody.

The next step is to decide what type of printing machines should be selected for this work. Apart from the fact of choosing a machine that will take the biggest size to be printed, the availability of skilled labour is also to be considered. It has been found that in this area (Madras) majority of the machine-men are accustomed to the use of stop-cylinder Wharfedale type machines. Next comes the two-revolution press; but as already pointed out, the stop-cylinder machine tops the list. If we choose the automatic, the machine-man to operate it is rather difficult to find. The author is aware of an incident that happened in Banares, where for want of a good machine-man for an automatic (Heidelberg) machine the proprietor was forced to dispose it off, incurring considerable loss in the whole transaction. So here again, the technician has to be very careful in selecting those machines that are familiar in the area.

Working Efficiency

The third point to be considered is the speed of the machine. Efficiency in percentage has to be determined. It has been found that in proprietor-owned presses the percentage may be fixed at about 50 to 60%; but in the case of institution-owned presses, workable percentage will be anything between 30 and 40%. It may be asked why such a difference in the working efficiency, especially when the capacity of the machines remains the same. The chief reason at present is that there is lack of human touch and sympathy in the institutions whereas the same is supplied in the proprietor-owned presses.

The next to be considered by the Technical Assistant is the machine complement. This has a direct bearing on the volume of work turned out in the Press. The calculation should be based on the outturn in the normal working hours and it should not be planned for any overtime work even at the very starting of the press. For instance, the volume of work of a particular institution warrants the erection of 4 cylinder machines of 2000 copies per hour each and 2 platens of 800 copies per hour each. It is not correct to plan for the installation of 3 cylinder machines and one platen machine leaving the excess work to be done by overtime. From the point of view of economy, it will be a safe course not to have overtime work at all and thus avoid the consequential troubles and difficulties enjoined by laws in the Factory Act. As a rule over-time work should be resorted to only when the same could not be done during the normal hours. Therefore even at the very outset, provision for overtime should not be made unless compelled by finance. For an institution this difficulty may not arise; but the difficulty will be in the form of labour uncertainty with their extravagant demand for overtime work if adopted.

Labour

Next to finance comes the labour and in the exact assessment of the labour percentage lies the success or otherwise of the institution. This aspect is a general one and there is not any special feature in it. The present-day labour has for its maxim the saying "Little work or no work but more pay." That is, the labour is at the other end of the swing of the pendulam. The Technical Assistant plays here a good and an useful part. Being aware of the technical difficulties and also knowing the financiers attitude and his commitments, the Technical Assistant strikes the mean and draws the golden line and thus restores the harmonious combination of the labour and the capital. In other words he points out in a most pleasing and unoffending way that one is not superior to the other and that one cannot live by oneself without the other. It is the cooperation of these two that makes the industry thrive. The industry serves twofold purpose; makes the country prosperous and prosperity brings peace and plenty which in turn brings happiness to people.

Regarding the establishment, a little thought may be bestowed whether a few men with rather high salaries will do the work better or a number of men with low wages will answer the question satisfactorily. By former methods only a few families can hope to subsist on this line with contentment and the latter gives life to a number of families. From the country's point of view it can be argued in favour of the second method; the evil, in this method is that the workman will always be discontent because the wages earned are not sufficient to keep the wolf away from his door. This discontentment will tell upon the production. So, for the quality and quantity of production, to adopt the first method seems better. Here again the Technical Assistant comes to the rescue; he suggests a method —a combination of the two—so that there will be one or two important posts on higher wages and a number of other posts on lower wages. Regarding the wage bill some index or upper limit may be necessary at the outset; the total amount paid in previous years towards printing will be a convenient limit within which the wages of the various categories or class of labour may be worked out and adopted.

Binding Department

Re. binding: There are various and multifarious operations in binding which often confuse and often times baffle classification and grouping. Sometimes it is even difficult to fix the standard by which the work could be assessed and paid. In northern India in most places the binding department is separate and it is known as "Duftary Department." In arranging work and getting equipment for this section the Technical Assistant should be very careful and should follow the rule of expediency; otherwise there will be serious consequences. As for the equipment, a guillotine machine is very important in any binding work and its size should be determined with reference to the maximum size (that is proposed to be executed) of the job on hand.

Composing Room

The types and other equipment required in the composing room may be determined as already described with reference to the total work the press has to execute right through the year. It is also possible that there may be some months or some periods in the year when there will be a heavy rush of work for composing for which the Technical Assistant should provide extra funds in the composing wage bill, to pay the day-extras or pay the extra hands on piece rate. Unless a provision is already made, this extra fund cannot be had and consequently there will be a dislocation of the urgent work. This must be avoided by careful planning as already stated.

Under this group may be conveniently brought the stereo-typing plant for works with longer runs. It may be argued that in addition to that it would be better to have chromeoplating also which is the latest

method and which affords dechromeoplating also. That is, when the plate, on the run, shows a waning out, the machineman should stop the machine and in a couple of minutes, the plates can be dechromeoplated, rechromeoplated, put on the machine locked up and machine is restarted. This is possible, but it is not necessary for printing offices of very moderate size.

Accommodation

The last but not the least, the most important factor is the building where the plants and the office are to be located. A Technical Assistant must be thorough with the factory and other labour laws and rules governing accommodation and plan the building with a scope for future expansion without feeling cramped or he should alter the existing building to satisfy those conditions. This is very necessary, because as the printer puts forth his wares to the public the business increases necessitating often times further addition of new machines, thus expanding the press and its capital value. In case no suitable building is readily available and a new building has to be constructed for the purpose, the following plan may be adopted. A large hall may be constructed with a roof whose minimum height is 22 ft. To this hall is put up a mezzo flooring covering about a third of the length of the building which may be used for housing the office and the reading department; where the whole of the ground floor can be used for machines, foundry work, binding department, type store, paper store and general stores for the miscellaneous articles. In the General Stores a portion may be allotted for storing printed goods before they are despatched to the parties.

The press library must be equipped with great care. All the books, Act copies, rules and amendments and standard dictionary in all languages, are to be put in it. This library will be the reference library which could be consulted even by the proof reading department, if no separate books are given to that section. In the interest of the neat and correct execution of the work it is desirable to have a separate reference library for the proof reading department.

When a scheme is drawn the financial implications should also be pointed out. The business man or the financier is not worried about the details mentioned in the foregoing paragraphs. It is the concern of the Technical Assistant. His main object is how much capital is required, what is the recurring expenditure involved in the scheme, what is the anticipated receipt and income that can be expected out of this business and what is the percentage return or the dividend, he will get from this enterprise. So the Technical Assistant should deal with this aspect of the question also and furnish the same in the following form:

	Rs. a. p.
Capital Outlay	
1. Capital required ...	
Annual Recurring Expenditure	
(a) Establishment ...	
(b) Labour ...	
(c) Purchase of Printing materials, etc. ...	
(d) Repairs and renewals ...	
(e) Depreciation at 5% on the plant value ...	
Total ...	
Anticipated Receipt	
1. Receipt by executing of works ...	
Balance Sheet Abstract	
Receipt (anticipated) ...	
Expenditure ...	
Balance ...	

Balance by Capital x 100 gives the return or dividend in percentage, on the capital outlay.

(*Continued on page 10*)

FOR STUDENTS NO. 4

All About Height-to-Paper

IN ADDITION to deciding on the point system, the conference called in 1886 by the Type Founders' Association of the United States also fixed the height to paper to which type should be cast. But efforts were made many years before the American point system was accepted. Early in the nineteenth century, says De Vinne in his book *The Practice of Typography*, "British and American founders came to a practical agreement that the standard of height should be eleven twelfths of an English inch, which is .9166 in." About the same time, James Fergusson, a Scottish Printer, put forward in 1824 a proposal which had as its main idea a point system of type sizes, and he included the sentence, "Let eleven lines of nonpareil be the standard height to paper." As the size of nonpareil at that date varied with the different founders, such a start was by no means encouraging, and it is hardly surprising that no one took any notice of Fergusson's scheme. Given a pica of .1667 in., his proposed height to paper would have been .9168 in. It may have been this suggestion which De Vinne had in mind, for the difference in the two figures is infinitesimal.

In United States

It was not until the 1886 Conference that the type founders of the United States really seriously considered the question. Perhaps it was felt that, as the whole idea which had previously governed type sizes was metaphorically in the melting pot, they might just as well put the type in as well, and so do the job properly. Having the metric system as its basis, and working with a measuring rod of 36 centimetres, it was decided by the conference to make fifteen type heights equal to the standard of 35 cm. This calculation, expressed in English measurements, comes out at .918 in.

On the continent of Europe, height to paper is now based on Didot points. Until towards the end of the last century there was no standardisation, each country, and in one or two places each district, had its own type height. But in 1879 a German typefounder, Berthold, was able to secure uniformity. He adapted Didot's standard, based on the French foot, to the metric scale, and had prepared a number of steel gauges each 300 millimetres long, equal to 798 Didot points, and sent them with his compliments to the founders of Germany. This standard was gradually accepted, and in 1905 the German typefounders deposited with the authorities a height-to-paper standard gauge of 62 2/3 Didot points, which, with a Didot point of .0148 in., gives the French, German and some other Continental countries a height-to-paper agreed standard of 927 in., against the British and American standard of .918 in.

Still Variations

Even with this agreed standard, slight variations occur. Certain type founders still cast the points and dots of the i and j about .0001 in. higher than the standard, and according to Le Gros and Grant in "some composing and casting machines the height to paper is made as much as .92 in ... to allow for the wear which takes place in the matrices. The trade height-to-paper of spaces, quads, quotations, furniture, leads and clumps is," these two authorities continue, "usually .75 in."

— By courtesy of *The London Typographical Journal*.

3-D PRINTING

Three-dimensional printing was used in the paper *Tempo*, published from Italy, for the first time recently. Four pages of this kind included an advertisement. Red and blue spectacles were supplied with each copy.

PAPER PROBLEMS - 2

PICKING OF COATED PAPERS

its causes and correction

by FREDERICK T. DAY

WRINKLING and creasing of paper stocks both while in store in the warehouse and on the printing machine itself, can give rise to considerable trouble to the printer, but fortunately, a number of factors responsible for such troubles, have been studied and certain remedies are possible in dealing with stocks of paper both in store and on the printing machine should the trouble arise at this stage.

The somewhat sudden changes of temperature which prevail in this country, particularly during the winter months, changes the relative humidity of the warehouse and the press room with the result, stresses are set up in the actual sheets of paper. Paper tends to acquire wrinkling with the change of atmospheric conditions. High relative humidities are likely to cause wavy edges to paper stocks, and this is often caused through moisture absorption at the edges of paper while the other part of the sheet remains unchanged. This will cause trouble while "feeding in" on the machine. There is in this case, no uniform expansion of paper.

Coated Paper Troubles

In the case of coated paper stocks, actual cracking may come about as a result of extreme dry conditions, much of the flexibility of the paper will be lost. This is also largely the experience of printers and paper users of other grades of paper, stocked under conditions of low atmospheric relative humidity.

Such conditions of variable atmospheric temperatures which cause these and other troubles for the printer are best controlled by establishing consistent relative humidity both during paper storage and during the actual printing operations. Air-conditioned premises, where possible, is the answer. Curly paper with wavy edges, wrinkling, creasing, the cracking of coated paper surfaces on the folding machine after printing, may be attributable to very low relative humidity. The correct amount of moisture should be maintained in all processing departments where paper and similar products are stocked and used and even simple devices such as normal heating apparatus, humidifiers and so on will assist in the control of moisture, in the case of the small printer.

Solutions to Paper Creasing

Where the trouble has to be remedied in the press room, certain factors have to be considered and some action can be taken. In addition to wrinkling and creasing troubles brought about through temperature conditions, uneven pressure on the grippers of the press can have a similar effect on paper. The simple remedy here is to even up the grippers.

Another cause of such paper troubles can result from a curved block at one or both ends as it takes pressure on the paper. Such blocks should be carefully "packed" at one or both ends as the case may be.

In the printing process, where borders are used with no break, air may be trapped and this alone will cause stretch in paper as the air tries to escape. The remedy in this case is to drill holes through mounts or blocks to release such air, or bolster the cylinder to hold paper away from contact and thus allow air to get away.

We know that too dry or too moist paper must be avoided in the press room, and in order to avoid static in paper, which is often present under certain conditions, it cannot be emphasised too strongly that the true importance of relative humidity and the study of air-conditioning on the printer's premises should receive the study it merits. Paper troubles, loss of time, press room difficulties waste materials all may be avoided. —By courtesy of *Paper & Print*.

The last article on

The Story of STEREOTYPING

BY CHARLES TALBOT

reveals many interesting developments of the nineteenth century including the dry flong and newspaper stereos.

THE early casting boxes were elaborate things, obviously based on the flat boxes. They had a complicated system of counterbalance by which the concave swung, and the convex raised and lowered. Curiously, a vertical box appears to have been used before the horizontal box.

It was found that the matrices could be prepared the day before, and kept. At some time in the sixties the drying press was introduced to dry the mat by steam or other heating after it had been moulded by the brush.

Even with *papier mache*, stereo remained for long a slow process, as the following extract from the *Polytechnic Review* for May, 1876 shows:

'At 12.24 the forme of the fifth page of the *Herald*, bearing the date of March 21, came up the elevator from the composition room. It was slid on a long iron table, oiled with a roller, and a sheet of thick tissue-faced paper (dampened) and then a blanket placed thereon. The whole was run under a heavy roller and back again, forcing the paper into the finest recesses of the type, by 12.26; by 12.27 the depressions were filled with plaster; by 12.28 the paper and plaster were coated with thick size; and another sheet of paper applied as a backing.

'A blanket was then laid on all, and the whole "hot pressed" in a steam press until 12.34; by 12.35 the matrix was removed, trimmed square, and "dusted;" by 12.36 it was snugly curved in a semi-cylindrical iron core, with peripheral corrugations, clamped so as to leave a semigrannular space of about three-eighths of an inch; by 12.36¾ the melted metal was dusted in from an adjacent kettle; by 12.37 the mould partly cooled by a dash of water, and the curved cast removed; by 12.37½ the cast was placed on a semi-cylindrical horse, and the end trimmed and bevelled by a vibrating circular saw; by 12.38½ the relieve was improved by rapid chiselling in open spaces; and by 12.39 the inside was dressed neatly to gauge by a rotating planer bit.

'The dumb-waiter then received the completed and yet hot cast, and sent it down six or seven stories into the basement press-room.

'Time of operation, 15 minutes, of which 11 were occupied in making the paper mould. From this same mould 10 casts are taken for the turtles of the single and double Bullock presses. These last receive the paper in a continuous web, print it on both sides, divide the twin sheets, and cut them off, and flirt them off in four piles, at the rate of 15,000 sheets per hour for each double press.'

Still Opposition

Even in the latter part of the nineteenth century, opposition from the conservatism of workmen remained almost as stubborn as ever, for instance, Tucker's patent of 1863 for making curved stereo plates from clay matrices was killed in this way.

But the need for some faster means of stereotyping for newspaper work was so pressing that it forced on development. The last real great step in stereotyping for newspapers was the introduction of 'dry' flong.

This did not happen all at once, but was the result of the cumulative efforts of a series of inven-

tors. The first claim is quite definite. It was by Eastwood of Hull, in 1837. The first dry flongs were not, like the wet flongs, built up in layers, but an attempt was made from the start to manufacture them of homogeneous material. The dry flong process was rapidly taken up, particularly in Germany, and by the turn of the century, newspaper practice was much as it is today.

The flongs have, of course, improved steadily and the stereotyping plant has, too; but there has been no revolutionary leap forward.

Parallel to the development of dry flong, manufacturers produced first of all, a mangle, and then a toggle press, and then hydraulic presses, for forming the matrices of newspaper plates.

The modern hydraulic press is designed both to impress the matrix into the flong and heat it and dry it in position under a reduced pressure on the type. Roasters for the final drying of matrices for newspapers have also varied. At first it was thought necessary that they should act centrifugally while drying, but this is by no means universal practice today.

The Winkler System

The Winkler system, followed by nearly all German manufacturers tried to get a homogeneous cast and at the same time to cut out the waste of git necessary on a vertical plate to avoid porosity, by tipping the entire pot over a horizontal box. It was also claimed that in this way plates could be cast so accurately as not to need shaving. Many of these claims have been abandoned, and it is now the usual practice to shave such plates, although this type of casting plant is an extremely economical one to buy.

Trends of English and American manufacturers, on the other hand, have been to make the conventional vertical box, shaving machine and milling of the bevels more completely automatic, reliable and rapid. Goss are now employing a different type of 'lock-up,' which they claim stretches the plate on the cylinder and may allow them to run the plate to a higher speed without fear that centrifugal action will tear it from its bevels.

But stereo today, although much faster and more accurate, is at bottom the same process that it was when the century dawned.

We may be at the threshold of the employment of entirely new materials and methods. Indeed, with the present development of plastics, this seems all but certain.

Of course, we shall never be as obstructively conservative as were our forerunners of press-room and foundry, when we in our turn face completely revolutionary methods. We would never set our faces against progress in the way they did.

Should we?

— By courtesy of the *Electrotypers and Stereotypers Journal*.

ROLE OF A PRINTING ASSISTANT

Continued from page 6

To sum up, the Technical Assistant must consider the following few suggestions: he should examine the nature of the work to be done; fix up the place where the machines are to be erected; fix up the equipment required, like the number of machines etc.; see that the building selected satisfies the requirements of the factory act and rules; if there is anything wanting it should be rectified and altered to comply with those regulations; consider the availability of the labour and work out its cost. After taking these into consideration, he should give his report in the form, giving an abstract of the financial implications, pointing out the percentage return or dividend that the financier can hope to get from this enterprise. It is possible that this article may not contain all the points; but it has touched on the various important problems that require a solution. Before close, it may be said that the Technical Assistant should always have the motto 'live and let live'; if he does so, he will always be in the right.

ODDS AND ENDS

Collected by 'Pearl' & 'Ruby'

News Pictures in Full Colour

Printing latest news pictures in full colour in daily newspapers was not impossible or far off, said Harvy Eybers, production manager of the *Washington Post*, addressing the Southern Publishers Association Mechanical Conference recently in Atlanta, U. S. A.

Mr. Eybers cited a Washington newspaper first — a natural colour photograph of the Naval Academy's Traditional June Week that went to the press in a *Post* edition on the same day. The picture was taken at 9-45 a.m. at Annapolis, about 30 miles from Washington, and appeared in the early edition that went to the press at 9-45 p.m.

* * *

'Windowless' Paper Factory

A 'windowless' paper factory has been built in Austria in which the machine has been installed in an entirely enclosed building with full air-conditioning and fluorescent lightning throughout. The lightning does not appear to affect the eyes of the personnel, nor have any signs of claustrophobia are depression been noticeable. Then artificial lightning aids colour control and the absence of window openings lower the cost of construction.

* * *

Argentine Printing

Here are extracts from a survey of printing trades in the Argentine: A typical Argentine printing house shows some differences from European practice. Finished work is kept in stocks, separated by sheets of waste; no galleys are used. A special hand, "the platinero," relieves the compositors of imposing, making-up and distributing and makes formes ready for the press. Labour is not so well trained, especially in theory, and apprenticeship systems are less developed. Employers tend to employ the minimum of skilled labour. Organisation and working discipline are deficient.

'Old-age' Typography!

A new method of choosing books? Letters to *The Times*, London, are often a source of knowledge. A letter from Barbara Armstrong recently complained of small types in books. To the elderly, she said, this is a source of great discomfort and precludes them from reading many of the best books — 'for the better the book,' says she, 'the smaller the print, seems to be the rule.' 'At our local circulating library it is quite usual to see the "over 50s" selecting a novel for the size of its print rather than contents, and buyers of novels for elderly relatives invariably examine the type size.'

Publishers, printers, designers, typographers take note. You are missing a market because of a couple of points. —Non-pareil in *B. & C. P.*

* * *

Gangster Press!

The police at Rio-de-Janeiro, Brazil, seized printing machinery and equipment of a special journal for gangsters. A design of handcuffs and prison bars was used instead of a name on the title-page. Details of recent arrests, convictions, police investigations in progress. and 'addresses' of criminals in prison were given. Another section of the journal was devoted to financial news of banks, description of safes and the alarm systems used by important firms.

* * *

Printing Methods School

The Darmstadt Technical University, in Germany, has just established a new Printing Machinery and Printing Methods School. Funds and equipment have been furnished by six leading printing machinery manufacturers. The aim is to give the prospective graduate in mechanical engineering full instruction in printing machinery and methods; and on the research side, the development of the graphic arts with the use of existing equipment, close co-operation with the School of Paper-making is contemplated. The principal, Dr. Wolfram Exenbach, has for many years been a prominent printing machine designer.

Late Mr. Hubert Douglas Mac Donald

IT is with deep regret we learn of the untimely demise of Hubert Douglas Mac Donald, Superintendent of Southern Railway Press, Madras, on 24-10-53. Many a member of the Federation who ad studied in the Government School of Technology, Madras, will cherish happy memories of the late Mr. Mac Donald who was a visiting lecturer for Machine-minding subject for more than a decade upto 1948.

Born on 19-10-1908, he was himself a product of the Government School of Technology where he underwent a four years' course in printing, successfully completing it in 1931. He joined the Diocesan Press, Madras as an apprentice and later became a lino-operator in the same firm.

After obtaining the certificate in Printing, he joined the Government Press, Madras as a lino-operater.

It was in 1932 he entered the then M. & S. M. Railway Press as Assistant Foreman in which press he continued right up to his death rising to the highest position by sheer merit. Very painstaking and meticulous in his work it was an easy matter for him to rise up the ladder from one post to the other.

In 1937 he was promoted as Machine Foreman. Between the years 1938 and 1941 he acted as Assistant Superintendent vice Mr. Dodd and was confirmed in that post in 1941. Later he officiated as Press Superindendent when Mr. W. E. Marsh was deputed as officer on special duty during World War II upto 1946. When Mr. Marsh went on leave preparatory to retirement, he acted as Press Superintendent in his place upto May 1947 and was confirmed in that post from that date. He visited the United Kingdom in 1950 to study the latest developments in Printing. The news of the death was a great shock to his friends, as the end came quite unexpectedly.

There are many printing technologists to-day holding high positions in the presses all over India who are indebted to him for the excellent training he had given them.

He had always a word of cheer to the printing technologists and encouraged them to go far and wide and make their talents known in every part of India. The extreme simplicity of habits which he kept up throughout his life in spite of his many changes in status is worthy of emulation by all of us.

The Executive Committee of the Federation at its monthly meeting passed a resolution condoling the death of Mr. Mac Donald and directed the Hon. Secretary to convey the heartfelt condolences of the Federation to the members of his family. The members of the executive observed 10 minutes silence as a mark of respect to the departed.

The Cover of this issue is printed on a
GATEWAY PAPER, "Proven" White Art,
Double Crown, 45 lbs., 500 sheets.

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