

LESSON THIRTEEN

Standard Paper and

Card Sizes

While paper is made in a variety of sizes, there are certain standard dimensions which are used as a basis of figuring, and most regular cut sizes are made to use them without waste. In bond paper this is 17 x 22 inches, which gives 8½ x 11 without offset. The old name for this size, folio, with its companion 22 x 34, double folio, are the most commonly used in bonds.

Book papers use 25 x 38 as standard basis. Most cardboards except Index which is usually 20½ x 24¾, are on the 23x35 basis. There are other standards, such as 24 x 36 for flat news print, 20x26 for cover stock etc.

When planning work it is well to take into account the standard of the particular grade of stock which is to be used, as well as the press on which the job is to be run, and try to get the most out of the stock as well as the press.

The printer can often save money for his customer if he will suggest an economical size. He will also protect himself from possible undercutting by a competitor who may otherwise use substitution of standard for non-standard as a means of lowering his quotation.

Paper Weights and Sizes

The bases of figuring the weights, etc. on paper have been a topic for discussion for years, and still are. Take 17 x 22, the bond paper standard size. The ream in this, as well as in all papers used to be 480 sheets, but for many years the 500 sheet ream has been standard. 17 x 22-20 meant paper weighing 20 pounds to the 500 sheets. A few years ago some branches of the

trade tried to popularize using the 1000 sheetweight, 17 x 22-40M for example — to indicate the weight. The scheme never received full acceptance, but instead added another system side by side with the old one.

We now have a third scheme to go along with the other two, and which may or may not eventually take their places. It has the very laudable objective of eliminating a situation whereby, for instance, a 20 pound bond weighs the same as a 28 pound cover, which is equivalent to a 51 pound book paper (because each category has a different size of sheet on which the weight of 500 or 1000 sheets is based).

This third way is to express the weight of any given sheet of paper or cardboard, no matter whether it be bond, book, cover, kraft, in the weight of 1000 sheets each having a surface area of 1000 square inches using a 1000-sheet factor. (Actually the factor is the weight of 1000 sheets of stock one square inch in size). Thus bond paper which under the old system is labeled 17 x 22 - 16 (16 pounds per 500 sheets) would be called 17 x 22-86 (the weight of 1000 sheets, each having a surface area of 1000 sq. inches). The sizes of the paper would not change, but where under the old system the printer would either have to figure out or have a table to tell him that his 16 pound bond would be the same weight as 25 x 38-40 pound book paper, under the new way his book paper would be called 25 x 38-85, and save him all the figuring. On some jobs choice of the kind of paper may be from any one of several categories, and having the same weight designation for all simplifies the work of selection.

Counting Paper and Cards

Rapid counting of paper sheets takes practice, but you can learn. Have the paper jogged up square. Roll back a few of the sheets

from one corner, so that they separate enough to be easily counted. In time you'll be able to pick off five or more sheets at a time without counting them singly. Tuck the counted sheets between the



Hold pile firmly with left hand curving up other end with right hand

fingers of your left hand so that the thumb and first finger will be free to pick up and count more; keep repeating the operation. Surprising speed will be acquired.

Cardboard may be counted with reasonable accuracy by laying out 100 pieces and measuring the rest by the height of the original pile.

For padding there is a pad counter which enables the printer to insert a blade between sheets in a pile, thus getting the same thickness each time.

Cutting Paper

While different cutters require different procedures, there are one or two points which are of equal importance on all of them. A sharp knife is essential for clean, accurate work. A good cut through every sheet can best be obtained by using a piece of pad back or chip board under the pile.

The paper or card stock should be jogged up into the left hand corner of the cutter bed. Before you bring the blade down, be sure your measurements are right, and that the paper is accurately jogged, because once it is cut there is no mending a mistake.

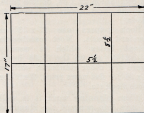
Figuring Cut Sizes

For simplicity, first take the half letterhead size $5\frac{1}{2} \times 8\frac{1}{2}$ from 22×17
 $5\frac{1}{2} \times 8\frac{1}{2}$

4 — 2 equals 8 to a full size sheet

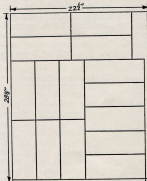
Divide the quantity needed by 8 and you know the number of full size sheets necessary for cutting.

Many card stocks, while nominally 22×28 , actually are $22\frac{1}{2} \times 28\frac{1}{2}$. This extra half inch is



HOW TO CUT SIZE $5\frac{1}{2} \times 8\frac{1}{2}$ OUT OF A SHEET OF PAPER SIZE 17×22 "

sometimes most useful in getting the last bit out of the sheet without waste. Not all come that size, however, so check before figuring.



CUTTING 15 PIECES OF SIZE 4×10 " OUT OF A SHEET, SIZE $22\frac{1}{2} \times 28\frac{1}{2}$ "

On card sizes, particularly, trimming as well as cutting is advisable, since trimming after cutting will eliminate possible fuzzy edges and improve the card's appearance.

HOW TO FIGURE

$$\begin{array}{r} 22\frac{1}{2} \times 28\frac{1}{2} \\ 10 \times 4 \\ \hline 2 \times \frac{2}{8} = 4 \\ 20\frac{1}{2} \times 22\frac{1}{2} \\ 10 \times 4 \\ \hline 2 \times \frac{3}{12} = 6 \\ 10\frac{1}{2} \times 20\frac{1}{2} \\ 10 \times 4 \\ \hline 1 \times 5 = 5 \\ \hline 15 \text{ PCS.} \end{array}$$

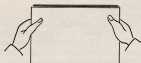
1/16 to 1/32 of an inch is needed, depending on how sharp the knife may be. While an allowance can be made for this, in most cases the stock may be cut that much undersize without causing any trouble.

Straightening the Printed Sheets

One way of converting the irregularly arranged sheets from the press into a smooth edged pile is to pick up a quantity of about half an inch deep, set them on edge, arch them so air will get between the leaves, and jounce them up and down. Smooth finish papers will jog up easier than rough finishes. Experience will teach you how much you can handle of a given kind of paper at a time. Pull out single refractory sheets, and put them front or back, otherwise they will be bent or crushed.

Jogging

Jogging consists of shaking or jiggling the sheets together until their edges are all lined up with each other and the sides are smooth. It can be accomplished by taking a few sheets at a time, jogging first one end against a bench



*Standing pile on edge
jumping it up and down
several times*

or table, then another edge, loosening the sheets up in process so that the air gets between them and allows them to slip over each



**SEPARATE SHEETS TO GET
AIR BETWEEN THEM
BEFORE JOGGING**

other. Practice will indicate how many sheets of various stocks can be handled at one jogging.

Folding

While a good proportion of folding is done on machines, the printer will have some jobs too small to put on a folder, and he should know how to do them himself.

With your left hand bring the right edge of the sheet to the left side. The folder (or folding stick) in your right hand, insert it in the fold of the paper as you bring it over. True up the edges with your left hand, and with these secure, use the folder to crease the paper, running it from the edge near you to the back.

Further folds can be made in the same manner, the usual way being to make all folds from left to right, with the front page down on the last fold.

Padding

Straight, smooth sides on the pile of paper are essential for padding. This may be accomplished by using a trough made of smooth boards, or the specially made troughs which come with padding outfits.



Padding outfits usually include a clamp which may be put on the pile after it has been jogged smooth in the trough. The pile can then be clamped and removed from the trough so as to expose its smooth side, and the composition may be applied. There are a number of different kinds of composition, including both hot and cold applied. The compound is usually painted on with a brush, although some varieties are sprayed on. If in a clamp, it may be allowed to stand until dry. Lacking a clamp, the pile is weighed down, and compound put on.



Pad Counter

After the composition is dry the pile may be split up into individual pads, either by guess, by measure or with the pad counter, a device with adjustable blade which enables you to make all the pads the same thickness.

Use the Right Paper

Hardly a day goes by that someone does not submit a job run on bond or other writing paper, with the request for us to tell why the impression is not just right. We

don't refer to stationery, or other jobs for which such paper is intended, but to circulars and work with comparatively large forms, where no writing or typewriting surface will be required.

With small equipment, where impression and inking capacity are limited, the printer will also do well to avoid bond paper EXCEPT FOR THE PURPOSES FOR WHICH IT IS INTENDED. Bond paper for stationery, yes. For blanks which will be written on, yes. But not on circulars or other miscellaneous work unless the quality of the work is not a consideration. Bond paper has a hard surface, so that writing ink will not soak in and spread. Generally speaking, the softer the paper surface, the easier it is to print on, so for circulars, programs, etc., make your choice from news white, colored advertising, medium white, egg-shell, enameled, or one of the other grades of book or circular paper, depending on the quality of the job and the cuts, if any. Even if the proper grade costs a little more, you will save yourself paper spoilage which may more than cover the difference, to say nothing of time wasted which may run into hours if the job is a particularly knotty one.

Lesson Thirteen—Questions

1. Explain the three ways of designating the weight of paper.
2. How many pieces of paper 6 x 9 inches in size may be cut out of a 25 x 38 sheet? With how much waste?
3. Describe one method of counting off sheets from a package of paper.
4. How can money be saved in the use of paper or card stock?
5. What is the first essential for smooth cutting, and what will aid in getting that cut down through to and including the last sheet?

6. Describe the usual way for a printer to do his padding work.
7. Describe the quickest way for hand folding.

The Printer's DICTIONARY

Gothic—In this country, type without serifs (cross pieces on the ends of the main stems of the letters) and with all strokes of the letters of about the same thickness are more or less mis-called Gothics. Abroad these styles are called Sans-serif type, and since the introduction of the modernistic faces, the term Sans-serif has been applied in this country, but mostly to the newer faces of that kind rather than to the older ones. The Copperplate Gothics are not strictly Gothics, as they have a very slight serif on them, in facsimile of the minute serif left by the engraver in making copper plates. Below are so-called Gothic and Sans-serif letters.

10 Point Cable

10 Point Gothic

Graphic Arts—Term applied to all branches of the printing industry.

Gravure—See *Photogravure* and *Rotogravure*.

Great Primer—The old name for type approximating 18 points.

Grippers or Gripper Fingers—Flat metal rods or fingers which hold the sheet or card in place on the tympan while it is being printed, and prevent it from sticking to the type when the chase and the platen move away from each other.

Gudgeons—Roller Wheels

Guides—All gauge pins are guides, but not all guides are gauge pins. See *Gauge Pins*. Any device for holding the paper or card in place on the press for printing.

Gutenberg, Johann—Born 1397, died 1468. While there is some controversy about it, Gutenberg is usually credited with the invention

of movable types. His first book, the Bible, printed around 1450-55, is a most prized rarity, largely because of this.

Gutter—A white streak in printed matter caused by an accidental arrangement of words which brings them in line with one another and consequently makes the white spaces between them line up. Also used to describe the blank space between two printed pages.

H

Hairlines—The fine lines in type as contrasted with the broader strokes.

Hair Spaces—Spaces for type, which are thinner than 5 em are said to be hair spaces. A five em



space should not be thought to be five ems long, however, nor a three-em space three ems long. One of the idiosyncrasies of the business is this designation for spacing materials. A five-em space is really a five-to-the-em space; that is, it takes up one-fifth of an em, not five ems, in width. The diagram given herewith illustrates the whole scheme.

Halftone—A cut made by the photo-engraving process, in which the photograph or job to be reproduced is photographed thru a fine-ruled glass screen, on a zinc or copper plate. The screen breaks the photograph up into minute dots, and the plate is later etched so that these dots form the printing surface. The screens used have 55 to 200 lines to the inch; the more lines on the screen, the smaller and closer the dots are together, the softer the picture, and the more difficult it is to detect the halftone from the original picture. The finer screens are also much harder to print from. A 120 line screen cut means that the cut was made thru a screen having 120 lines to the inch. 120 and 133

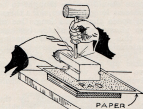
line screens are very commonly used. Newspapers take the coarser screens, because of the haste with which they must be printed, and the poor paper which they use.



Coarse Screen Halftone

Coarse screen cuts are commonly made on zinc, finer on copper. Without the breaking up of the picture into the minute dots made up by the screen, it would not be possible to produce a plate which could be used on an ordinary press.

Hand Proof—Proof made with proof press or by laying a piece of damp paper on an inked form, placing a heavy cloth or felt over



Making a hand proof

that, followed by a planer, and tapping with a mallet. Care must be taken that the paper, felt or planer does not shift while taking the proof.

Hanging Indentation—The use of a long first line, with subsequent lines of the paragraph set in an em or more from the left margin. In other words, just the opposite of the ordinary method of indenting paragraphs.

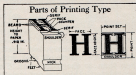
Hard Packing—Very little packing on the tympan, and that made with hard surfaced card, paper, or

pressboard. A hard packing makes a much more clearcut impression from type, and should be used wherever possible, especially with new, unworn characters.

Heading—An electrotype or type used for the title of a paper, or the head of any sheet.

Headline—Any display line at or near the top of a printed sheet, usually set in type considerably larger than the rest of the job, often in caps.

Height to Paper—The height of type from foot to face. A letter



which is not high enough to print is "low to paper," one which is too high, "high to paper."

Hellbox—A receptacle for all broken, bent or otherwise unusable type or metal material.

Hempel Quoins—Devices for locking or tightening the form, consisting of two wedge shaped pieces with teeth in them, which are placed together. The key, which does the tightening, also has teeth, and these teeth engage those in the wedges, pushing the pointed ends away from each other, and in



Hempel Quoin and Key

so doing bringing the thicker ends of the wedges together, which, being thicker, take more space and tighten up the form. Turning the key the other way brings back the wedges to a point where they take less space and loosen the form. Chases in which there are screws for tightening or locking do not need quoins although they may be used in them without alteration if desired.

Highlight—Light parts of half-tone or other cut as contrasted with intermediate (middle) tones and solids.

Hollow Quads—Quotation quads, 2x4 picas (and larger) in size.

Hue—The predominating color in the ink.

I

Imposition — What seasoned printers would call "stone work," that is, the making up of the form on the imposing stone, or elsewhere, in such shape that it is ready for the press, including the locking up of the form in the chase. See also *Composition* and *Makeup*.

Imposing Stone—A metal or stone surface, absolutely true and level, on which the form may be put into the chase and locked up. Excelsior press owners who do not have separate imposing stones or surfaces are able to use the chase bed for that purpose.

Impression—The squeeze between the surface of the form and the paper.

Imprint—The name of a firm or individual and sometimes address, on a piece of work which identifies it as his production, or as put out under his sponsorship. In the case of books, there are sometimes two imprints, one of the publisher, and another of the printer, when the publisher does not have a printing plant and hires somebody else to do it for him. Many manufacturers furnish circulars of their products to merchants who handle them; or to representatives, if they sell insurance or a commodity not requiring a retail store or wholesale warehouse. In that case the manufacturer often puts the imprint of his representative or dealer on the circular, and such circulars are known as imprint circulars. Under such circumstances, the imprinting is usually done at a different time than the balance of the printing, because the quantities are smaller, and it may best be done on smaller presses. Many small press owners find it profitable to imprint circulars for the

manufacturer; or for the dealer, in case the manufacturer supplies them without the imprint. Many printers have made up for them a special design, which may be reproduced in small size, and used on such of their work as is permissible and in good taste. When that is done, the imprint is in reality a trademark. Many of the early printers had their imprint, just as silversmiths and other craftsmen had their mark which identified their wares. The mark given, below, if we were in the printing



business, instead of being manufacturers of presses and supplies, would be an imprint, and under a broad construction of the term may be applied even tho we are not printers, when we use it on our own printed matter.

Indentation or Indentation — The space at the beginning of the first line of a paragraph, or any similar space similarly placed.

Index—Often called a fist (☞) or a hand. The other meaning, fairly clear to almost everybody, is the alphabetically arranged list of the contents of a book, pamphlet or periodical, usually placed in the back or front for easy reference.

India Tint—A buff tint most commonly used when some shade off plain white is desired, particularly for book, pamphlet and circular work.

Inferior Letters or Figures — Characters set below the common line of the rest of the type. For example: 1234. The opposite of inferior characters are superior letters and figures: letters set above the common line, thus: ¹²³⁴

Initials—Usually the large letters which are placed at the beginning of a chapter, section, article, etc.

A G O R

Specimen shows a few of the initials available

Ink Knife—A thin flexible knife used for mixing printing inks. Long, slender ink knives are often



Ink Knife

called spatulas, in fact the terms are usually considered interchangeable.

Ink Slab—Of stone, plate glass or something similar for supplying ink to the proof press roller, or for mixing or working up ink to go on the job press.

Insert—A sheet or sheets not printed with the balance of the magazine, catalog or book, but bound in with it. An insert can usually be distinguished from the other regular material by the difference in paper, type, colors or other characteristics. Usually it is not set up or printed in the same plant. Some wholesalers make up the bulk of their catalog from such inserts furnished by individual manufacturers, and inserts are frequently used for advertising in trade publications, the manufacturer furnishing his own insert, and supplying the same one to several different periodicals.

Insertion—Something either left out or added, to be put in. In advertising, one insertion indicates the use of an advertisement once; two insertions, twice; etc.

Intaglio—Printing from plates having the letters cut in, instead of raised. Steelplate and copperplate engraving, also gravure and rotogravure are done from intaglio plates.

Intermediate Tones—Middle tones of a halftone or other cut as contrasted with highlights (lightest part) and the solids.

Italic—Sloping letters, having the same general characteristics as Roman letters in most cases. Much of the conventional italic has a few letters, such as lower case a and g, which are unlike their Roman counterparts. (a, a, g, g.) Italics were first produced in Italy in 1501. At first only lower case letters were made, Roman caps being used with them, but italic caps soon followed. Italic is supposed to be modelled after

the handwriting of the poet Petrarch. It is used largely for emphasis, titles, display, or in some cases nowadays, as a text letter (for body work), which latter use was its original one, altho in later years it was subordinated to Roman for that purpose.

J

Job Press—A press suited for general job printing.

Job Printing—Miscellaneous printing, as contrasted with specialization on one particular kind, such as book or magazine work.

Job Ticket and Job Envelope—The work order that carries on it all information regarding the job, both instructions and record of work done.

Jog—To jog a pile of paper is to straighten it up so that all the edges are smooth and even.

Journeyman—One who has learned his trade; in printing terms, it of course refers to the printing trade. The term is said to have come down from the middle ages, when skilled craftsmen were more itinerant, i.e., journeyed about. Formerly a man who worked by the day.

Justify—To properly space out lines of type. Each space between words should be as much like the rest as it is possible to make it, with due regard for appearances. This will call for somewhat different spacing after periods and commas. In cases where the end letter of the first word and the first letter of the second are of such a shape as to give the illusion of more space it is customary to use a somewhat smaller space so as to give a good appearance. Justifying which is not so particularly done ignores these distinctions, but is very easily spotted by the experienced printer. Of late years there has been a tendency to use closer justification, that is, leave less space between words than was formerly considered necessary. In place of the commonly used three em space, four em spaces are sometimes inserted, with thinner ones, of course, where needed.

(To be continued)