

# Letterpress Equipment and Materials

by Peter Lindley

To be able to put into practice the knowledge derived from the preceding letterpress chapters of this guide to printing you will require some equipment and materials, but what do you need and where can they be obtained? Broadly speaking there are four groups of items —the printing machine, composing equipment, paper and ink, and miscellaneous.

## Printing machines

The most expensive single item for any printer is usually his machine. Of beginners who decide on one of the smaller hand platens (5" x 3", 6" x 4") the majority soon want to change to a larger machine, the 8" x 5" being the most popular. Note that the size is that of the platen and is roughly the size of the paper that the machine can accommodate. Do not expect to be able to print a solid area of type anywhere as large.

No letterpress printing machines are now being made for sale — it will have to be second-hand. Most beginners start by acquiring a press originally manufactured by Adana Ltd of Twickenham. The smallest machine has an inside-chase area of five inches by three inches (125 x 75 mm), but many prefer the Eight-Five (200 x 125 mm) platen, which allows the use of larger forme areas. A wide range of accessories was available for this press including an impression counter, an ink duct and a rider roller and if you are lucky this may come with your press.

Adana also produced the Horizontal Quarto Flatbed press that could take a 10" x 8" (250 x 200 mm) sheet of paper and is excellent for printing an A5 page. The Adana Showcard press is now rarely seen; it is a very powerful clamshell quarto model capable of printing large solid areas like lino-cuts or wood cuts but it has to be inked with a separate hand roller.

The other important tabletop presses are the Model hand platens by Excelsior, No.1 (5" x 3"), No.2 (7/2" x 5"), No.3 (9" x 6") and the No. 4 (10 1/2" x 7"). Other firms occasionally sell reconditioned machines too.

Second-hand hand platens are sometimes advertised in *Small Printer* and *The Printer*, an American publication available world wide. Second-hand treadle and power machines are sometimes advertised in these and other printing journals too. The price will depend on the condition but bargains are certainly about.

If you can examine the machine before purchase look for, and beware of, missing cogs in the gears, cracks in the frame and brass shims in the bearings. Also, when the machine is closed on impression it should not be possible to move the platen, even with a two-handed grip. It is worthwhile asking if any spare parts are available, for at least one spare chase will prove invaluable later. If, when you have bought a machine, it has to be transported back, be aware that the transport may cost more than the press.

The machine rollers that carry the ink from ink plate to type are a vital part of the machine. Composition rollers give the best results when printing — provided they are in perfect condition. However, they tend to swell in damp conditions and may become uneven (and useless) within a few months if not carefully looked after. A spare set of composition rollers is desirable *if they* can be obtained.

Modern rollers are more likely to be made from polyurethane (e.g. Treothene rollers by Usher-Walker). These were more expensive than composition rollers but print almost as well. They are trouble free, requiring little maintenance and thus you should not need spares. As ink may dry more rapidly on polyurethane rollers than on composition it is not wise to leave ink on them overnight, a practice which may be quite safe, however undesirable, with composition. Nowadays you may have to accept rubber rollers as the only option available; these can be more difficult to use but can have a long life if maintained as instructed.

## Composing Equipment

As mentioned in earlier chapters, there is quite a variety of equipment used in the composition of type. Good quality typecast on a Monotype machine was made by Yendalls (as 'Risecatyp') or Mouldtype or Startype, and high quality founders' type came from firms such as Stephenson Blake and Stevens Shanks. Founders' type is harder, generally more precision made, and was much more expensive than Monotype.

Card founts were very small quantities of type suitable for a few lines on a business card, dance ticket or a letterhead only. They came in small packs containing, say, 5A 12a.

Regular founts came in weights of 10 lb. to 15 lb. (4-6 kg) and some founders produced half founts (weighing about 5-10 lb.) in the smaller sizes that were a useful for the small printer with a limited budget.

The synopsis of founts (the ratios of the various characters required according to their average usage in the English language) varied from founder to founder but as a guide approximate fount sizes were as follows for a roman:

6 pt	2 1/2 (5 lb)	90A 180a	or	60A 30a 180a
8 pt	2 1/2 kg (5 lb)	50A 100a	or	50A 25a 100a
10 pt	5 kg (10 lb)	70A 140a	or	60A 30a 140a
12 pt	5 kg (10 lb)	45A 90a	or	35A 15a 105a
14 pt	5 kg (10 lb)	32A 75a		
18 pt	5 kg (10 lb)	20A 44a		

Sometimes you may find about one third of the capitals have been replaced by small caps in sizes where the latter were available, usually in composition sizes below 14 pt only. Figures and standard punctuation would be included in the above founts but spaces and such characters as leaders (...), fractions, signs (\$, ), dashes (—, —), or arithmetical signs (+, -, x, + or ±) were purchased separately in small founts.

As a rule of thumb a pound of type (say 450 gm) has an area of four square inches. However, frequently used characters in a fount will be used up more quickly so that, perhaps, only 40% of a fount can be set before you start to run out of some letters. As a *very* rough guide for the beginner you could probably set about 120 words (or the number of e) of text matter with a fount containing 100a. Note that the invitation to an ANNUAL DINNER AND DANCE will need more capital N's than in a 5A card fount, and a menu or price list will soon use up all your £s and p's!

Spacing material is needed, a minimum of 1 kg for each size of type. It is supplied in packs of spaces (thin to em) and quads (2 to 4 em). Ordinary hair spaces are not included in space or quad founts. Brass hair spaces are expensive and are unnecessary in the smaller type sizes, and for the larger sizes, cut card is much cheaper.

Leads and clumps are also required for spacing and can be supplied cut to length for an extra charge. Keeping the number of different lengths to a minimum, for example by having only multiples of 6 ems, can help to keep down expense. A further saving is achieved by sticking to one thickness of lead, namely 2 pt, and 6 pt clumps (with possibly 12 pt and 18 pt too). Lead cutters vary widely in price, and most can be used for cutting brass rule too. The Adana cutter is excellent value for money if you can pick one up at a sale.

Furniture may be of wood, plastic, alloy or lead. My own preference is for plastic — Resalite — but others prefer wood provided that it was accurately cut to size by the supplier. Furniture needed is one or two times the chase area in the same lengths as the leads and clumps.

Apart from the smaller Adana hand platens, which have their own built-in locking systems, only expanding metal quoins should be used to lock the chase. For large chases the standard size of quoin 12 x 4 ems is suitable, but narrow margin quoins 8 x 2 1/4 ems take up less space in the smaller chases. Avoid wooden quoins and Hempel-type metal quoins.

Printing rules are of type metal or brass (expensive). Watch out for three things when choosing rule — the body width (stick to multiples of 2 pt if you use only 2 pt leads), the face width, narrow, medium, full, double etc., and the position on the face. Side face rather than centre face is recommended as it may make mitring the corners (of boxes) unnecessary. Wide rules (12 pt upward) are available quite cheaply in wood or plastic and are ideal for use as type-high roller bearers.

For decorative purposes there is a wide selection of borders (generally available in 1/4kg packs at fount rate) but beware of the desire to buy 'just in case', as they may well never be used. The same applies to stock blocks (e.g. Adana) which should be purchased for specific applications. If special blocks are wanted you must go to a process-engraver.

The setting of type requires a composing stick. A good quality steel one will last a lifetime. Bear in mind that a stick full of type can be heavy and also, if it is not comfortable in the hand, then setting will be tiring. I use two sticks — an 8" (200 mm) that is 10 em deep and a 12" (300 mm) which is 12 em deep — and much prefer the smaller one.

Other items of composing room equipment are a bodkin, tweezers, planing block 6" x 3" (150 x 75 mm), and a steel or plastic typescale (essential!). Setting rules usually came in sets of a dozen or so sizes. A sheet of 6 mm plate glass makes an excellent imposing surface and if it is cut to the same size as your small type cases it can be stored in the same rack.

Type is normally stored in typecases. Standard English full-size composing cases are 32 1/4" wide, 14 1/4" deep and 1 3/4" high; occasionally the height may be 1 1/4" or 2". Note that there are also Scotch cases 34" x 15" and Californian cases 32 3/16" x 16 5/8" (and these may have a different lay). Stanhope cases (22" x 14") are similar to standard cases but are only fractionally cheaper and can rarely be obtained second-hand.

Probably the most useful case is the *double* that will hold a complete fount of type weighing about 8 kg. Machine setting has made a pair of cases rare, but the caps or upper case consisting of two halves, each identical with the right hand side of the double case, is often used for either a full fount plus small caps, or two titling founts (with no lower-case). Trebles and 4-fount cases will hold three and four titling founts (such as Spartan) which come in several sizes on one body.

Steel composing cabinets hold from 20 to 25 cases of type. These are 36" high and the tops are sloped as an aid to composing. The small printer will probably find that he needs only three or four double cases, and a framework for them can be made from slotted angle iron fitted under the composing (or machine) bench.

There are a wide variety of card fount cabinets each holding from six to twelve small cases. These cases may be divided into 11 columns by 4 rows, or 7 x 6, or 9 x 4, etc. Useful 14 x 5 cases for storing small founts (up to 2 kg) can be made the same size as 13" x 8<sup>3</sup>/<sub>4</sub>" galleys and stored in a galley rack.

Galleys, on which set type is stored, are 13" x 8<sup>3</sup>/<sub>4</sub>" and made of pressed steel. A two-tier steel galley rack to take 50 galleys and/or cases gives a working surface at a convenient height.

Cases can be made with 1" x 1/2" planed softwood for the outer and central walls, hardboard for the base, 6 pt reglet for the crosspieces fitted egg-box fashion, with stiff card to form the compartments. (It is advisable to select a card that will fit easily into slots made with your saw). For titling founts, an additional row of compartments enables two such founts to be kept in one case. Two of the small Adana 9 x 4 compartment cases will just fit on a 13" x 8<sup>3</sup>/<sub>4</sub>" galley.

Cases of some kind are essential for all type up to .12 pt and for bigger scripts (especially those on angled bodies), but the larger square body type can be simply kept upright in lines in cardboard boxes (e.g. photographic boxes) with wood furniture between lines and around the edges. The minimum thickness of the wood should be found by experiment, as it should be easy to pick (with fingers, *not* tweezers) any required character from the box. Borders, leaders and miscellaneous sorts can also be stored in this way and much more conveniently than in cases.

Before dissing (distributing) a new fount of type into the case many printers wipe the surface with an inky rag to make the characters easier to identify later. It is always worth pulling a proof of the fount before dissing, as a check on its completeness and for future reference.

Some spacing material should be kept in the large fount double cases but the remainder is best stored in cases made specifically for the purpose.

## **Paper and Ink**

The price of paper varies according to quality and weight. If less than a complete ream is wanted, a breakage charge will be made. These large sheets can be guillotined to smaller cut sizes for an additional charge, but allowance must be made on the size for trimming. VAT is charged on breakage and cutting charges. Cut sizes can be obtained from a paper merchant or, at higher prices, from stationers and office suppliers.

A4 paper with a pre-printed coloured background in a number of designs is available for that special menu or letterhead but these are not cheap. Some paper merchants used to stock billhead blanks in cut sizes for invoices and statements, etc. These blanks had a plain section about 3" deep at the top for overprinting with the name, address and other details, the lower portion being ruled with faint blue lines horizontally, and as appropriate, vertically for cash, rate etc., but these seemed to die out when decimalisation came in.

Nowadays it is much more economical to buy card as a hundred boards and to cut out the quantities and sizes as required. It used to be possible to purchase card cut to size in boxes of 500 or a thousand but these are becoming increasingly difficult to obtain. Note that rotary cut cards have better finished edges than ordinary guillotined cards. There were a wide variety of plain, coloured and fancy cards (some extremely expensive) for all occasions but these are now rare. Wedding invitation and Christmas card blanks, for example, are available from some suppliers but only in small quantities at exorbitant prices.

Ink is supplied in V2 kg or larger tins. Formerly, an assortment of coloured inks were sold in small tubes at a reasonable cost, but no longer; frequently used inks should be bought in tins. There are inks of every possible shade, for different papers, for different printing surfaces (and for different printing processes, although here we are only dealing with letterpress). The black ink that I prefer is Mander-Kidd Q99 'Flash' Concentrated Black which dries rapidly on paper but unlike most inks (and paint) does not skin in the tin or dry on the rollers. You should get the supplier's advice on the best kind of ink for a particular paper or card. Remember also that the shade can vary with the kind of paper the ink is used on.

Silver and gold inks are available, but at a price. Dusting powders, which were used on wet ink to give a silver or gold appearance, have largely been superseded by thermographic powders for producing embossed effects.

### **Miscellaneous**

Although you may buy all your paper cut to the sizes you expect to use, there may be occasions when a different size is needed. Guillotines are expensive but there are various card cutters, such as photographic print trimmers, available at low cost from which to choose. They can, of course, also be used for halving (after printing two-up) and for trimming.

Several fairly cheap items may be used in the printing process. Gauge pins were quite cheap, only a few pence for either the wire type or the adjustable type, and you may still pick some up at a sale. A pair of dividers is very useful for checking that a pull is square on the paper and centred correctly. When printing, the paper to be removed from the platen can be readily gripped by rubber thimbles, obtained from your local stationers.

To dry an inked impression on the platen after a 'miss', French chalk, talc, or a similar powder can be used. To clean the ink disc, forme and rollers after use, rags and solvent are needed. To clean the ink from your own hands I have yet to find anything better than Swarfega (from hardware shops or Halfords); alternatively you can stop the ink getting there in the first place by using rubber gloves or throwaway polythene gloves. If you are allergic to Swarfega, most stains can be removed by rubbing half a teaspoonful of olive oil into your hands, then washing with warm water and soap. Washing up liquid is often good enough.

### **Suppliers**

You will find some suppliers advertising in the pages of *Small Printer*.