

## The BPS Introduction to Printing

### Hand Platens by A.L.Shearn

In this paper we shall consider what you must do, having set your type, to get good printing off such little machines as the Adana 8-5 or the Model No.3. Although these are often described as hand presses, we shall refer to them as hand platens because in the printing trade 'hand press' is the usual description of large old presses such as the Albion and the Columbian. Much could be written about hand platens, but for now we will consider the names of the various parts of the machine. Some of these, such as the rollers, roller arms and ink plate are self-explanatory. Others, however, are less obvious:

**Bed.** The solid flat surface behind the type.

**Chase.** The metal frame in which the type is locked.

**Platen.** The flat movable part which presses the paper against the type. Presses that have this kind of mechanism are themselves often called platens.

**Platen bands.** Hinged half-frames which secure the paper that is used to cover the platen.

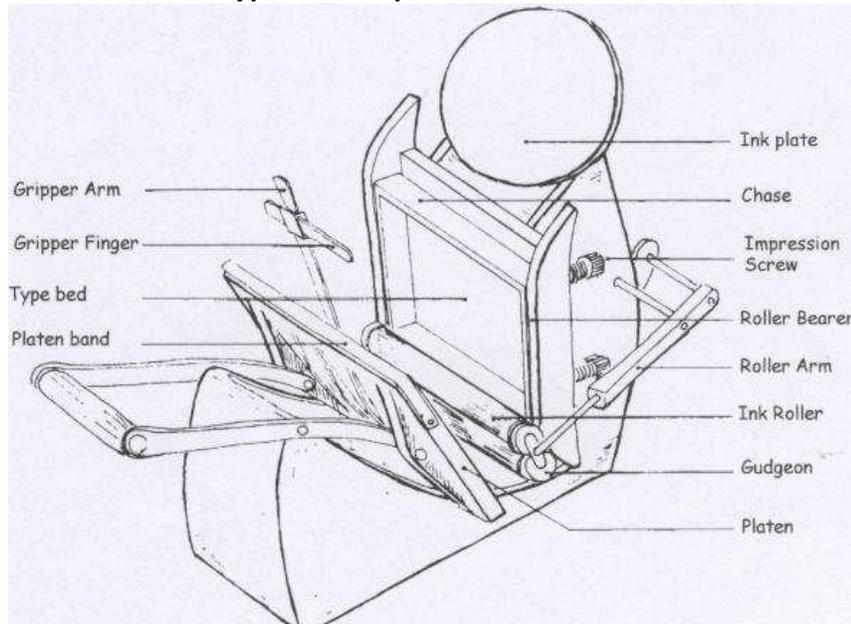
**Tympan.** An ancient word left over from the days when presses had a separate tympan to carry the paper and platen to give the pressure. You are likely to meet it only in such expressions as tympan padding, meaning the covering of the platen.

**Quoin.** A device for locking the type in the chase. It is not part of the press and has to be purchased as a separate accessory.

**Stock.** The paper or card you will use for printing.

Most hand platens are extremely simple both in principle and construction. The only mechanical adjustment is control of the distance and angle between the typebed and the platen. On the Adana 8-5 this is achieved by moving the typebed; on the Model presses the typebed is fixed and the platen can be moved.

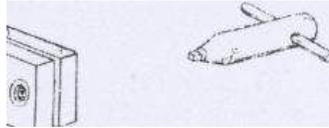
#### *A typical hand platen*



## Locking up the forme

When you have finished setting the type for a job, the resulting assembly is called a 'forme'. Some mental arithmetic as well as manual dexterity is often needed to fit together lines of hand-set type, blocks, rules, borders and various spacing materials so they 'set solid' to a rectangular shape. Slide the forme from the galley to the imposing surface. Professionally, this is a perfectly flat surface of cast iron, but for small work a piece of plate glass will suffice. Place the chase round the forme so that the latter is more or less centrally positioned and start filling in the space between the type and the chase with furniture.

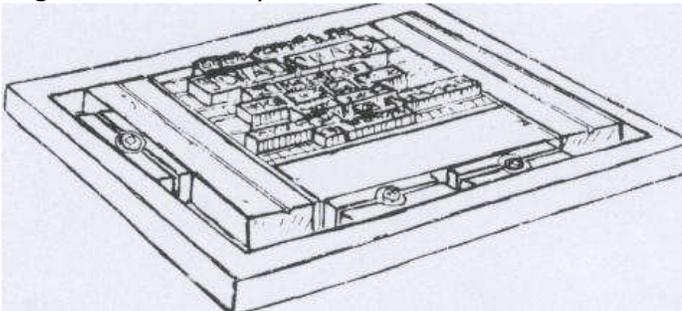
Some chases have set screws built in and locking up is accomplished by tightening these screws firmly against a metal sidestick, which squeezes the furniture. Alternatively, quoins are used; formerly these were wooden wedges but nowadays they are metal blocks that can be expanded by turning a key.



Mechanical quoin and key

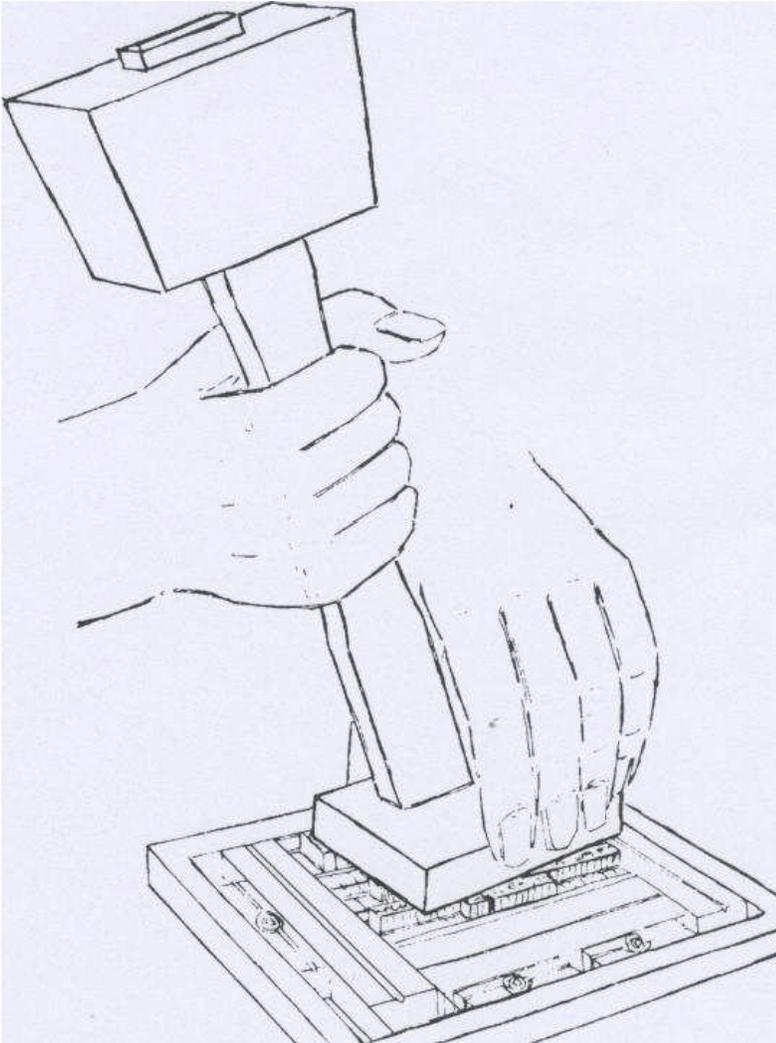
Try to achieve a systematic drill in your locking-up. Tighten the screws or quoins slowly, building up pressure gently in each direction. Lift one edge of the chase to see if the type is holding. If only one or two lines are loose, they need packing by removing spaces and substituting thicker ones. If many are loose, however, it is likely that a nearby line is over packed and the fault is remedied by reducing the spacing in that particular line.

Do not attempt to secure a bad forme by excessive pressure on the screws or quoins. This may result in a distorted forme that cannot give a good impression or, worse still, the forme may 'spring' to a degree where it may burst.



Forme locked up in a chase

When the forme is firm in the chase, wipe the underside of the type and also the imposing surface to remove any dust or dirt. Replace the chase on the imposing surface and loosen the quoins. Hold a smooth block of wood (the planer) on the surface of the type and tap the wood lightly to ensure that all the type is standing firm and level. Tighten the quoins again, and your forme is ready for taking the first pull.



Planing the forme

### **Inking up**

When all is well, but before inserting the chase, fit the rollers and apply a little ink. Remember that it is much easier to add more ink later than to have to remove too much. Ink may be applied direct to the ink plate and the machine operated until it is well distributed (this is a means of mixing two colours) but it is better run up with a hand roller on, say, a piece of glass and then transferred by hand roller to the ink plate when it is evenly mixed. The latter is the best means of adding ink when, later in the run, loss of ink has to be made good.

Make sure that there are no obstructions which could damage your type (especially gripper-fingers or gauge pins which have been left near the type area) and fit the chase in the typebed of the machine. Close the press sufficiently to cause the rollers to pass over the type. Then slip a sheet of paper between the platen and the grippers and slowly close the machine. When you open it, you have taken the first pull (proof) from your forme.

Hand platens continue to work in spite of a good deal of neglect, but from time to time you should check that all is well. When did you last oil your press or wipe it free from dust? (A cover will keep it clear of dust.) Is the typebed clean? Are the rollers becoming cut or shrunken? Is the tympan padding good or is it worn and indented from previous work?

A reasonable tympan padding for small presses is two pieces of card, about 5-sheet thickness, three or four sheets of newsprint, and a top sheet (secured by the platen bands) of strong bond paper. The firmer the surface, the less the wear on your type, though a softer surface helps to conceal shortcomings if the type is already badly worn. Generally speaking, the hardest possible surface should be used for script and italic faces, while a softer one may be needed for bold faces and illustration blocks. Using a piece of graph paper for the top sheet can be a great help in aligning type and paper.

### **Getting a perfect impression**

Your first pull is unlikely to be perfect. It may not even be readable! Here is a list of likely faults, with notes on how to correct them:

*Too much or too little ink.* To remove excess ink, lay a sheet of strong paper on the ink plate and pass the rollers over it or rub it down by hand. Remove the paper and check again. (Weak paper may tear.)

*Too much or too little pressure over whole area.* When printing abnormally thin or thick stock, pressure is corrected by adding or removing a sheet from the tympan padding. In a perfect world, when the adjusting screws of the platen or typebed have been set, no further adjustment is necessary. However, most users of small presses still find the need to do so rather often.

*Pressure weak (or excessive) at one side or corner.* This usually arises from faulty setting of the adjusting screws. Note that if, without altering the screws, you add to the tympan padding, its effect will be greatest at the edge nearest to the hinge bearings. This fault can also arise when an undersized sheet of padding from an earlier job is left in place.

*Pressure weak at centre.* A large forme tends to print heavier near the edges than at the centre. This is easily corrected by tearing a piece of very thin paper to the shape of the weak area. Moisten this so that it will adhere under the type so it gives extra pressure where needed.

*Large letters poorly impressed.* Extra pressure is needed for these; use an underlay as described above.

*Letters failing to print.* This arises from a variety of causes. Faulty or damaged letters should be removed and destroyed forthwith. The fault could, however, be a hole or indentation in the tympan padding. Another possibility is that an adjacent letter may be standing proud, either because it was missed in planing or because of dirt underneath it. The offending letter showing excessive pressure can usually detect this.

*Letters off their feet.* Occasionally only one side of letters will print and the defect shows through several words or lines. This is caused by the letters having been locked with a tilt to one side or the other. It implies carelessness in locking up and is most likely to happen if the lines are not filled out properly. The chase must be removed, unlocked, and the forme re-planed or reset.

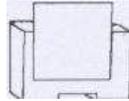
### **Proof checking**

You will now have a readable proof of your forms. Check it carefully, not only for mistakes but also for possible improvements. To judge the appearance of the finished job, take a pull on a fairly large sheet of paper. Rule lines to represent the edges of the stock you intend to use.

Points to watch are errors of spelling, punctuation and numeral. Has anything been omitted from or added to the copy? If fleurons, rules or other embellishments have been included, do they serve the intended purpose? Is there need to remove or add such items? Is the distribution of unprinted area ('white space') as effective as it can be? If in doubt on any of these points, try the effect of making the alteration, even if afterwards you decide to change back to the original layout.

It still remains for you to ensure that when you put your stock into the press the printing will appear in the right place! Close the machine so that a pull is taken on the top sheet of the tympan padding. You can use pencil carbon paper for a trial proof if you do not need to ink up the press yet. With a pencil and ruler, mark where the edges of the stock should be.

There are several means of holding the paper in this position. Adana presses incorporate an adjustable lower lay-gauge. Alternatively, there are various gauge pins that are pressed into the tympan padding. A simpler, but equally effective, device is to paste an 8 pt quad on the top sheet. Slips of 3-sheet card or one point lead pasted on top will give a ledge that prevents the stock slipping. This time-honoured improvisation is used regularly by many printers.



A quad used as a lay-gauge

Lastly, make sure the top sheet is clear of ink. A pull taken on newsprint will shift most of it; dusting lightly with talc or French chalk will safeguard what is left — but keep it clear of the type and rollers. After a final check that all is well, including the position of your printing on the stock, all is ready for you to proceed.

### **Set-off**

Take care that the under-sides of newly printed sheets do not pick ink from the sheet below. If your stock is absorbent and you do not stack more than about 200 sheets, there is little risk of this provided that you do not shuffle the sheets. With hard or smooth surfaced stock you must take more care. Recognised precautions are to interleave with sheets of newsprint or (with items like business cards or dance tickets) to scatter the pulls in a fairly large tray to reduce contact. Handle the work as little as possible until you are sure the ink is really dry and hard.

## Washing down

Solvent, whatever kind you use, is best kept in a small can with a fine spout. Type is most easily cleaned before it is unlocked from the chase.

First remove excess ink with scrap paper and then wipe the type with a soft cloth. Squirt some solvent on a bristle nail-brush and brush the type lightly but briskly. Do **not** use a modern nylon brush for it will scratch the face of the type. Dry off with a clean cloth and place the forme face down on some newsprint to drain off any left. Do not use more solvent than is necessary to do the job properly. Flooding the type will wash the ink from its face on to the sides, where it will dry and harden.

To clean the press, remove the excess ink from the ink disk with newsprint laid on the surface and rubbed down with an old rag. Next squirt solvent on the ink-plate and work the rollers. Pass a sheet of absorbent paper between the rollers and plate and repeat if necessary. Apply a last jet of solvent and wipe both the rollers and the plate with a soft cloth.

Rollers need special care, especially if they are made of composition. Do not allow ink or solvent to dry on them as it may injure their surface. Whether you store them on the machine or elsewhere, make sure they are not left with pressure indenting them and keep them covered so they are not exposed to dust, damp or other damaging conditions.

There are proprietary makes of solvent but they can be purchased only in rather large quantities and not all printers find them to have advantages over alternatives that are to be found in most homes. Here are some of the best known of these:

*Paraffin*. First class except that it is slow-drying and a forme cannot be re-used immediately after cleaning. Do not store it for too long in a plastic container.

*White Spirit* (Turpentine Substitute). Also good, but is said to have a hardening effect on composition rollers.

*Methylated Spirit*. Can be used, but a mixture of spirit and ink tends to be a sticky mess. Beware, the fumes are combustible and toxic.

*Petrol or Lighter Fuel*. An effective cleaner but is dangerous owing to the high fire risk.

*Carbon Tetrachloride* (e.g., Thawpitt). The vapour is hazardous to inhale so never use it in an enclosed space. This may no longer be available for general sale.

Before you leave your press, remember that it will not be long before you need to use it again so try to leave it as you will like to find it. If you cover the press make sure the fabric does not adhere to the rollers.