THE PRESS ROOM

by

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The revolution that has taken place in the press within the last two centuries has been very great. Taking up the early history of the press we find that there is considerable evidence that the origin of printing has been traced back to ancient Assyrian nations, but the great progress which has taken place has been during modern times.

In the early methods of printing we find that the people took their manuscript or whatever they desired to have printed, and wrote it out on a piece of very thin and transparent paper, pasted this on a block of hard wood, the engraver carved away, for a short distance, all that was not traced, after this was finished it was ready for impressions to be taken; the ink was applied by means of a brush. No great progress was made along this line, the proof evidence says that it was a very slow and awkward method, and ceased to use it to any great extent. This earliest form of printing is only in use by the Church at present in Europe the same or a modified method.
 lasted till the closer of the fourteenth century.

One of the earlier forms of a press was simply a modification of the ancient wine or cheese press. It consisted of two upright timbers held together by means of cross-pieces; as a convenient distance from the ground, a flat board on which the hyfis was placed was fastened to the cross-pieces; another board afterwards called the platen moved vertically by means of screws and in so doing produced the impression. The platen had to be screwed down and unscrewed each time an impression was taken. This was a very slow and tedious way, but the same form with slight modifications lasted till the beginning of the seventeenth century, at which we note the beginning of the great revolution.

One noticeable improvement upon the form just mentioned was made in 1620. The improvement consisted in facing the spindle of the screw into a square block on which was fastened the platen, and adding a convenience by which the rod could be...
rolled out and set under the plate. Next, in 1798, the Earl of Stanhope came forward with a press in which the framework was entirely new, and although he still retained the screw, he attached a combination of levers by which the amount of energy necessary to manipulate the press was very much reduced, and this is the idea that many improvements in view, i.e. to make some improvements or invention by means of which manual energy will be replaced by machinery.

The improvements were made by Sir William Congreve in 1816, when he erected a press, which disposed entirely with the screw, substituting a large iron bar placed over the plate, one end being attached to the uprights and the former. The other end was raised and lowered by means of levers. This was slightly improved by Samuel Rush, in 1827, by diminishing the amount of material in constructing the frame, by following the larger pieces out, and by setting the frame work together by means of rods.
her hollow base; this also added much strength to the frame work. It slightly improved the toggle joint.

The next step developed into the Washington hand press, which can be seen in a good many offices, and especially in small country offices today. The hand press has reached its climax, and the power press or printing machine comes into use.

The press for typographic printing can be conveniently grouped into three classes:

1. Hand press,
2. Job press,

The power press or printing machine may further be divided into:

1. The single cylinder,
2. The double cylinder,
3. The rotatory machine.

The Single Cylinder:

The single cylinder prints single sheets, and only on one side of the sheet at once; the type from which the in-
Precious are taken in locked up in chasers, and then the chases are placed on a flat bed. Some of the divisions of the workings of the single cylinder are:

1. Taking the impression.
2. Carrying the forms back and forth.
3. Lifting the forms.
4. Feeding the sheets.
5. Delivering the sheets.

The impression is taken by placing the form on the bed and lifting the cylinder down so that it will give a certain amount of pressure on the forms, when the cylinder comes in contact with the type it has several thicknesses of paper, which taken all together are called the tympan.

The bed is carried back and forth by a series of cog-wheels, which also rotate the cylinder, and the cog-wheels are so arranged that when the bed has gone back and forth, the cylinder has rotated on its axis once, and it comes in contact with the tympan at each successive rotation. The bed slides back and forth on guides...
iron bars which are part of the frame work, and the jar of the bed is diminished by means of springs at the ends of the box or by air cylinders below the bed.

The ink is taken from the fountain and distributed by means of rollers varying in number, usually having two or more iron rollers so as to cause a more than distribution of the ink and four or more common rollers.

The feeding of the sheets is a small job after you have a little experience in that line, but even if it is rather insignificant, it is very essential that the sheets be set in very accurately, because of the smallness of the job the accuracy should not be slighted. If they are just in accurately on both sides, the matter to be printed lined up accurately, a perfect register will not be difficult to obtain. This is done automatically, to some extent; in cases where it is, the papers are placed on a feed board which has an automatic arrangement by which it is raised, the distance depending upon the thickness of the paper. The top sheet is lifted off from the rest by means of steel fingers
which have a kind of rubber attachments. The sheets are delivered after being printed by means of what is called the fly, which consists of several long wooden fingers which receive the paper directly from the type and transfer the paper from the cylinder to the fly. The fly uniformly feeds the paper and is worked by a series of arms.

**Rotating Press:**

The rotating press prints both sides of the paper at once by means of stereotyped plates. The impression cylinders as well as the printing surfaces are circular. The paper is taken from a reel in our continuous sort. The machine is sometimes called the Web-press from this fact, which is wound into parts or sheets after it is printed, thus doing away entirely with the complication of a feeding apparatus. The rotating press has been considerably improved since its first appearance. The speed of the
press has gradually been increased until the average is about 3500 impressions per hour, the press coming out folded, almost ready to be mailed. The help necessary to run one of these is about the same as that of the cylinder press.

Recess:

One of the essential requisites of a pressman is to know how to properly take care of rollers, for if not given the proper treatment they deteriorate in a very short time. To keep rollers new they should be put in a closed box or case when not in use. They should always be cleaned after using so that the ink will not form a coating, which might injure the section of the roller. When a roller is new it necessitates very careful using; at first it should be used at short intervals and at a definite temperature, depending upon the kind of the roller. Then increase the time each interval until the roller can be put into constant use; it should be...
handled with care, as a small scratch or smear on the roller helps to cause an uneven distribution of the ink. This shows emphatically be practiced with new rollers as they are more easily injured than when in constant use. Rollers when used so long that they have lost their section are of little use, but section may be renewed to some extent by washing in hot water and then mixing with pure water. For regularly cleaning rollers it is best to use coal-oil, applied with vigor. The ink comes off immediately if the oil is applied in this way, and leaves no injurious effects whatever on the rollers.

Inks:

Inks may be grouped into three different classes:

1.- News,
2.- Book,
3.- Lithographic.

But not taking up either of these groups in particular we will speak of it in a
general way, giving a few necessary qualities of ink as a whole. Ink
should contain solid pigments; should adhere to the paper readily, and when
coming in contact with the paper should readily be detached from the types; should be
distributed with more or less ease which
determines the price of the ink to a consider-

able extent; should dry in a reasonable
length of time.

Our common newspaper ink
is got up as cheap a scale as possible
in making these common oils from
paraffin and resin, mixed with ordinary
lamp black as used, not using any dryer
whatever, but the theory of this mixture
is that when it comes in contact with
the paper the oils are absorbed, leaving
the solid part as a stain.

The best inks are made from
selected qualities of linseed, poppy or wal-
mast oils. This kind of ink dries on the
paper, and does not leave a stain as
news ink does. To accomplish this

ink must be used, as in paints, which
are employed for absorbing the oxygen;
the ink on being excluded from the air should be transparent, and should not undergo any changes, but retain its
mass and give a smooth glossy appearance.

Colored inks are manufactured in a similar way to those of black inks. Special attention is paid to assure gum varnish
and to gas chemicals that do not react on
each other. The chief defect of colored inks
is that they fade when exposed to the air
and light. The fading varies directly
with the brilliancy of the color.

Paper:

Much of the paper used for printing
differs from writing paper in that the
surface is softer and it is not so
hard sized; the fibers mostly used in
making paper are straw, wood, bagasse,
or waste, and certain grasses. These fibers
are ground by taking them through a series of
stages. They are first macerated, then bleached
and heated and finally boiled until they
are in a pulpy almost fluid state, then
after the water is drawn off they are
Rolled into different thicknesses. The sheets vary considerably in size, but when folded up into book form they are distinguished by certain names regardless of their size as:

<table>
<thead>
<tr>
<th>Size</th>
<th>Folded over</th>
<th>Making</th>
<th>Leaves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Folio</td>
<td>folded over</td>
<td>twice</td>
<td>4</td>
</tr>
<tr>
<td>Quarto</td>
<td>&quot;</td>
<td>&quot;</td>
<td>4</td>
</tr>
<tr>
<td>Octavo</td>
<td>&quot;</td>
<td>three times</td>
<td>8</td>
</tr>
<tr>
<td>Duodecimo</td>
<td>&quot;</td>
<td>irregular</td>
<td>12</td>
</tr>
<tr>
<td>16 Mo.</td>
<td>&quot;</td>
<td>four times</td>
<td>16</td>
</tr>
<tr>
<td>18 Mo.</td>
<td>&quot;</td>
<td>irregular</td>
<td>18</td>
</tr>
<tr>
<td>24 Mo.</td>
<td>&quot;</td>
<td>irregular</td>
<td>24</td>
</tr>
<tr>
<td>32 Mo.</td>
<td>&quot;</td>
<td>five times</td>
<td>32</td>
</tr>
<tr>
<td>48 Mo.</td>
<td>&quot;</td>
<td>irregular</td>
<td>48</td>
</tr>
<tr>
<td>64 Mo.</td>
<td>&quot;</td>
<td>six times</td>
<td>64</td>
</tr>
</tbody>
</table>

Not only do the sheets vary in size, but there is also a very striking variation in their quality, which determines the grade of the paper. Some of the common kinds that we have for selection, with the size of each in which they are manufactured are:

- Flat Letter | 10 x 16
- Flat Pocket | 12 x 19
This is but a small list but will illustrate the way in which paper is selected. It is always the highest grade of paper that gives the best satisfaction, sometimes a cheaper grade will give much better results all around, than with a higher grade, thus of course depends upon the kind of work, and the use to which it is to be put. One of the peculiar things about paper is that it sometimes becomes electrified, and this is one difficulty that the single-cylinder pressman has to contend with. When electrified the sheets cling fast to the feed board, and refuse to go in accurately unless an extra amount of energy by the feeder is exerted. This is more particularly noticed in the winter as the atmosphere is drier than the summers.
may be overcome to a certain degree by moistening the air, which may be accomplished by letting steam around the fans. Moist air is a good conductor while dry air is a poor conductor; or in other words the moist air carries the electricity off which the dry air would not. The electricity also disappears when left standing for some times.

Preparation of Paper Room:

This is of the utmost importance. In order to do good work the temperature should be kept at such a degree that the ink will be thoroughly distributed, with the least effort, and to do this the temperature is pretty high which is almost suffocating to the amateurs, but by continually working in this temperature it will soon become unnoticeable. The ventilation of the paper-room can be as regulated by careful attention in a way that it is not so disagreeable. To do this one should try and get a current which will most directly blow upon the ink fountain.


Sourer of Fees:

This is a question which requires due consideration by the press-man if he wishes to do justice to his health and keep his ink in the best workable condition. Probably most small offices are not arranged to have the press-room by itself, but in cases where it is possible, it is very convenient and advisable to have a branch from one of the main files so you can have an extra amount of heat directly under or near the fountain, when it is most needed; if such an arrangement can be made, you can keep the ink at its proper temperature and also have the breathing atmosphere more nearly the normal.

Sinks for Forms and Rollers:

An essential of the press-room is to have proper places to wash the forms and rollers; the forms should always receive a good cleansing immediately after they are taken from the press.
to do this a sink should be in a convenient place and conveniently connected with an abundant supply of water, which may be applied to the forms by a hose, also a certain supply of dye water, which enters the sink on the forms. For rollers the sink should be so arranged that the rollers could receive a slow cleansing without precipitation of ink on the floor.

Relation of Press to Composing Room:

A close relationship exists between the press and composing rooms. To do good work in the press room it is of vital importance that the compositors should be skilled, and not send type to the press "off its feet" or with too long or too short rules, improper spacing or wrong foot letters, all of which require an extra amount of labor, which the pressman should be shooting to his own work, instead of correcting mistakes made by unskilful compositors.
Suggestions

A few suggestions, which during the time spent in the press room, the writer has learned to believe significant are:

1. Order should be the pressman's first law. Know when your tools are, and always keep them in their proper places.

2. The pressman undoubtedly has a very unfatiguing place to work unless he is very particular to do his work in such a way that he will get the least possible amount of dirt on the floor and upon his clothes.

3. Odd moments between runs may be utilized to good advantage in "tidying up," wiping hands, and getting ready for the next run.
4. - Do not hesitate to spend an extra amount of time in getting as near a perfect impression as possible, all presses are so constructed that they should give an even impression if they are in running order; when the impression is not satisfactory by the impression screen, the pressman should correct it by cut-outs and overlap.

5. - Always keep cool, never get excited for unsatisfactory work spoils much good material.

The pressroom is not the most desirable place to work, but taking everything into consideration it is not undesirable; this, like any work one may engage in has its pleasures as well as its displeasures.