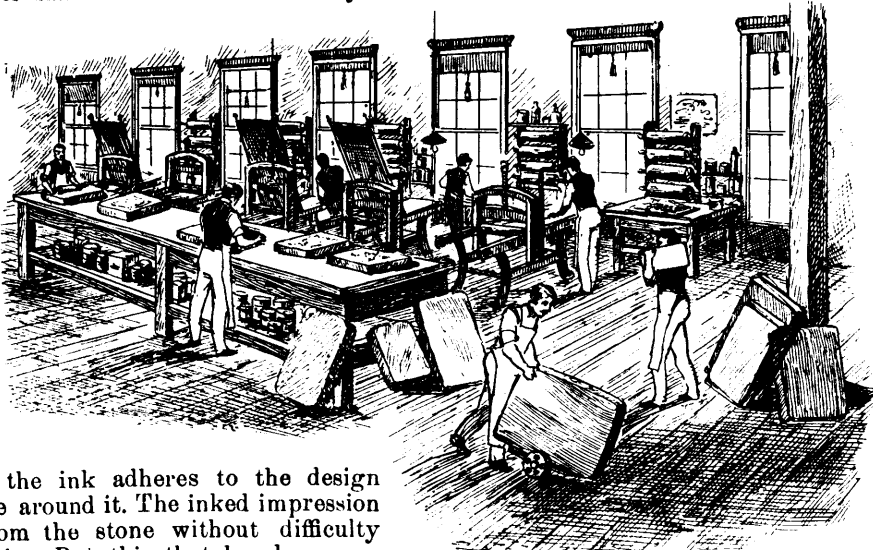


design on stone. The stone has meantime been prepared by giving to the surface a fine or coarse grain, as may be needed, by rubbing it with a smaller piece, with finer or coarser sand between them as may be determined by the quality of surface required. The design is first faintly traced upon the stone, and then carefully filled in with a black crayon of which the ingredients are tallow, wax, soap and shellac, coloured with lamp black. The shellac imparts the degree of hardness or softness required in the different grades of crayon work. When the design has been placed upon the stone the surface of the stone is treated with diluted nitric acid and gum arabic, by which means the part covered by the design is rendered more porous and the surface around it eaten down so that the design stands slightly in relief. The stone is then washed, and, if an inked roller is passed over it the ink adheres to the design but is rejected by the wet surface around it. The inked impression may now be taken upon paper from the stone without difficulty by simply pressing the paper upon it. But this that has been prepared, with so much care and skill (it may take the artist a week or a month to do it), is only the first keystone.

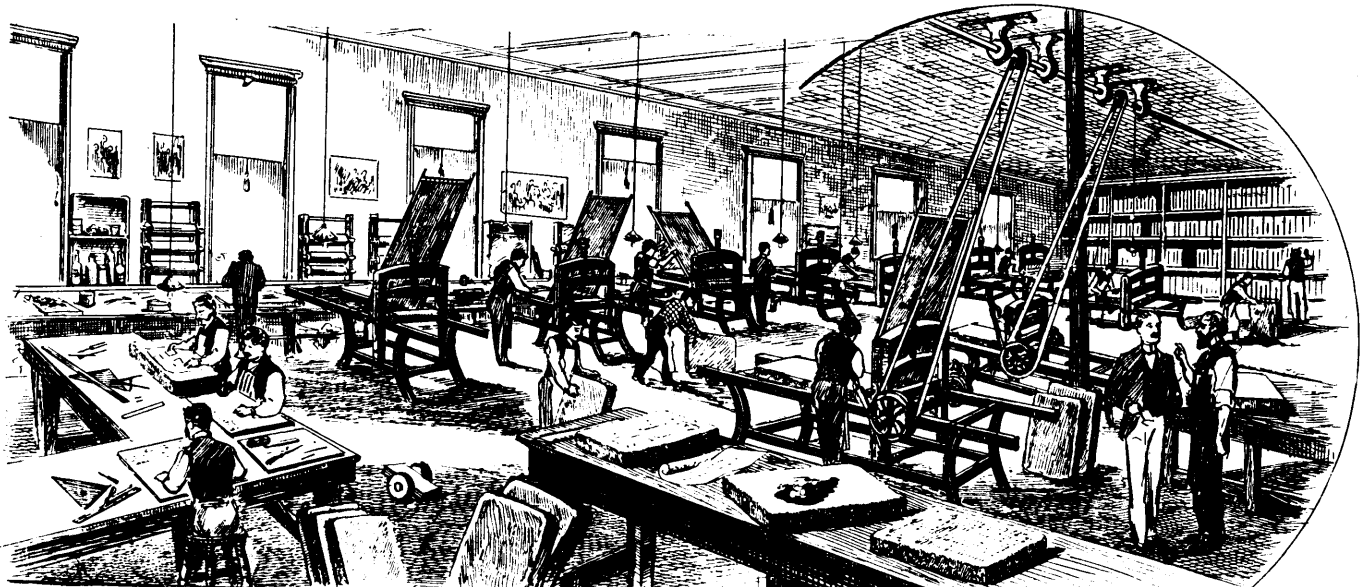
the impression of all the different colours, and is ready to be fitted with a hanger by the trimming machine and hung on somebody's office wall. In this combination of colours the most minute care must be exercised, both by the artist and the pressman; for the displacement of a colour, even the twentieth part of an inch, it will readily be seen would spoil the whole card. If, as is sometimes the case, twenty or thirty shades of colour are required, it will be seen how exceedingly accurate must be every detail of the work. The printing must always proceed according to a prescribed order, else the result would be an inartistic jumble of colours.

In the case of our show card, or any large engraving, say 22 x 28 or 24 x 30, or larger, the stones go direct to the press after leaving the hands of the artist. In the case of a small label, such as a lobster or tomato can label, however, of which a very large number are to be printed, the smaller stones are

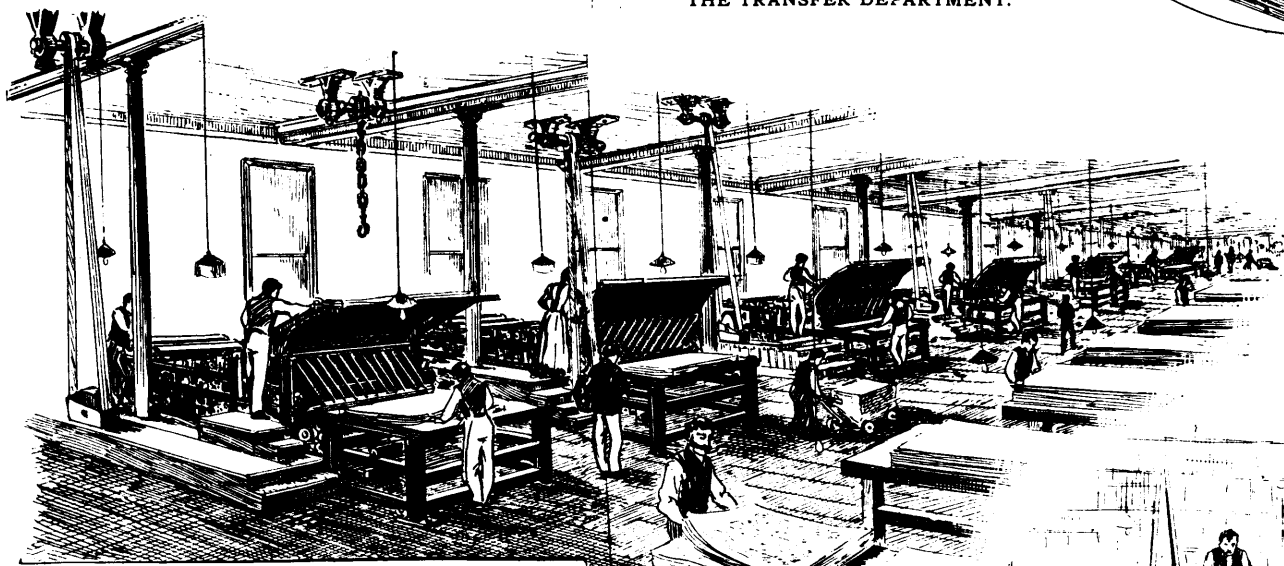


PROVING DEPARTMENT.

Before the printing begins there must be as many stones prepared as there are colours in the original design. For every colour there must be a different stone. On each one of these is placed the impression taken from the key-stone. This is done by sprinkling the impression on the paper with red chalk dust and then pressing it upon the new stone, when the design is left in red upon the surface of the latter. The artist then sets to work, and with his crayon and acids treats each stone as he did the key-stone, except that, guided by the original coloured



THE TRANSFER DEPARTMENT.



LITHOGRAPHIC PRESS ROOM.

drawing, he brings into relief on each stone a portion of the design which is to appear in some particular colour. For only one colour can be printed at a time upon the card. Proofs are taken on paper by the prover under the artist's direction from each stone when finished, with ink which must be mixed to the colour to appear in the finished card, and all these proofs are sent to the pressman, to guide him in mixing the different inks for use in the final process of printing. The stones are then taken down stairs to the steam press room, and the card goes from press to press until it has received

sent to the transfer department, where by a comparatively simple process the original design is reproduced a great many times on large stones, and the latter are sent to the presses, so that with every turn of the press, a dozen or two dozen, or even more impressions of the same label (or rather of one of the colours to appear on it), are made at once instead of one at a time. These labels when printed must be varnished, and this is done by a very simple process.

The large sheets of paper on which they are printed are passed through the varnishing machine, a large cylinder, from which they pass out upon the dryer, making a journey through the air to the other end of the long room and back again, simply suspended, each one, on a small stick across a long frame, and by the time each



COLOR GRINDING.