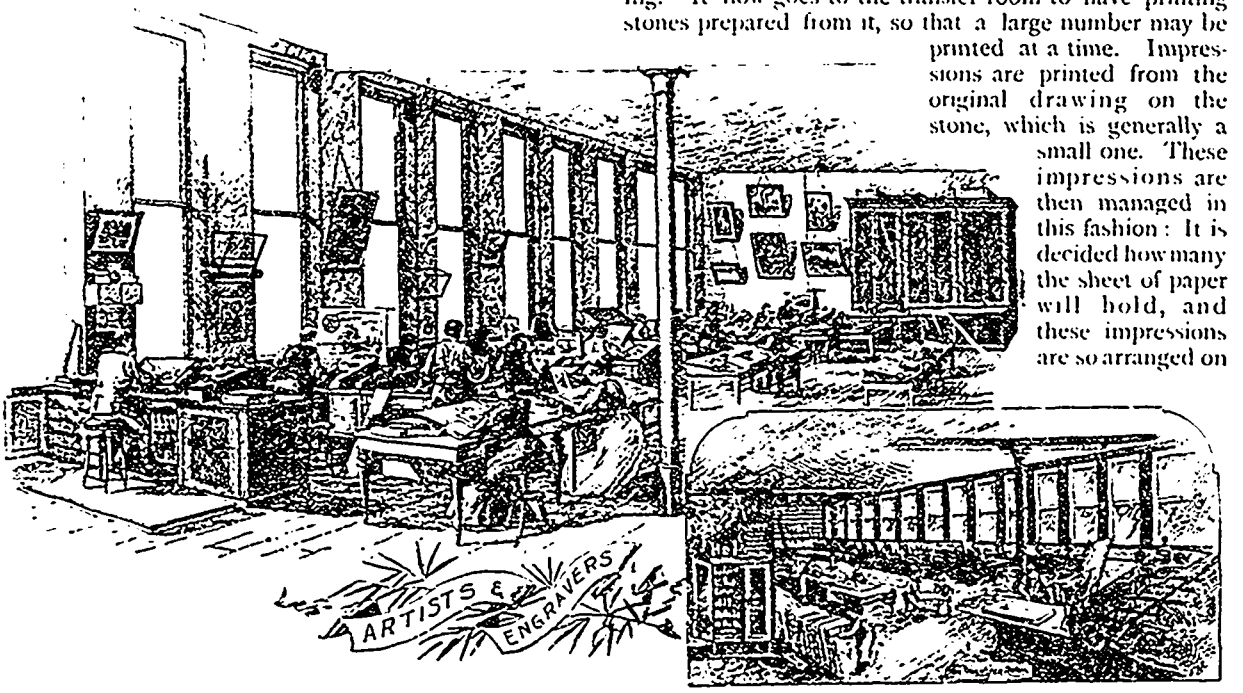
exposure is secured, the plate is brought to the dark room. Here the entire surface is covered with transfer ink, and the whole thing is laid in pure water, and washed with cotton wool. Wherever the light has acted on the sensitive zinc, the impression has been received from the negative. This impression only remains, and it has taken the ink. The remainder of the ink is washed off. The plate is dried with heat, and dusted with rosin to stay all further action. The "lights" in the impression are eaten away by acids, and the plate is now sent to

THE ELECTRO ROOM.

I want my readers to distinguish between electro plating and electro typeing. Electro plating is the art of depositing a coating of metal on a surface prepared to receive it, and which is intended to remain, as on a teapot. Electro-typeing is a similar process, but with the intention of removing the coating for other purposes.



This is what we see in the electro room. The plate of zinc is placed in a "routing machine." A small sharp tool, like a drill, is set over it. The operator guides it over the zinc, cutting and "routing" out the parts that are not intended to be printed, so that there shall be no chance of their appearing when not wanted. The plate is then dusted with black lead. A cake of wax is laid in contact with it, and pressed into it while hot and soft. A clear and most beautiful facsimile is thus secured on the wax. To this a wire is attached, and another to a sheet of copper, while both wires are fastened to the poles of a dynamo, and the wax and copper are set in a battery. Here, by the most wonderful scientific laws, the copper begins to coat itself over the wax, depositing itself gradually over the whole surface. The result is a tolerably strong sheet of copper with an exact impression of the original drawing, through the negative, the zinc, and the wax. This is then strengthened by molten lead being poured in at the back. It is shaved off to the proper thickness, mounted on wood or metal, and numbered for convenience.

STONE ENGRAVING.

This is a very fine and most expensive, but beautiful, manner of reproducing drawings for maps, portraits, cards, invitations, programmes, stationery, and so forth, in all their difficulty, delicacy, ornamentation, elaboration, and imagination. We shall go down first to see the stones prepared for their duty. We get them in iron-bound cases, from Bavaria, which is the only country in the world where a satisfactory stone is to be had. It is a kind of limestone, and is sold by the pound, the price per pound increasing very much in the larger sizes. There are two sorts, yellow and grey. The yellow is the most plentiful. The grey is the best for engraving.

The first stage is the grinding, where, with a rotating wheel or disc, and sand and water, the level surface is produced. As the surface must be true all over, the care necessary to secure a good stone is very great. The surface is then polished by hand with pumice-stone and snake-stone, and an abundance of water. A stock of these stones thus ground and polished is what few houses in Canada can carry with profit.

We saw the stone in the art room receiving the drawing. It now goes to the transfer room to have printing stones prepared from it, so that a large number may be printed at a time. Impressions are printed from the original drawing on the stone, which is generally a small one. These impressions are then managed in this fashion: It is decided how many the sheet of paper will hold, and these impressions are so arranged on the paper that they will adhere without being strongly stuck on, and are exactly adjusted in their correct positions. This sheet, with the impressions upon it, is placed face-downwards on a stone large enough to receive it. The stone, with the paper on it, is then laid in the press. Pressure is applied, and the ink of the impressions becomes transferred to the stone, and we have now a number of drawings, instead of one, on one stone, from which to print.

In the case of calendars and other coloured work, a drawing must be made of the part corresponding to each colour required, and a separate stone prepared for each. The care with which these must be adjusted, so as to bring out one harmonious whole, may be easily imagined. The difficulty is increased when you remember that each colour must afterwards be printed separately, and yet how few of us could tell where the adjustment comes in. It seems as if one skillful hand had executed every touch with an artist's love.

The stone is now "rolled up," which means that lithographic ink is rolled and rolled in, so that the impressions are equally and adequately strengthened. It is left rolled up for a few hours, after which an acid is used, that eats, or etches, out the impression more clearly. Plenty of water is then applied to wash, and the draw-