

residences of the weavers extended over a much wider area than might be imagined. Roughly speaking, a line drawn along its boundaries would run as follows:—Beginning at Shoreditch Church and proceeding along the Hackney-road to the Regent Canal, it followed the course of that waterway to the Mile End-road; it then ran from Whitechapel to Aldgate; from Aldgate through Houndsditch to Bishopsgate, and thence northwards to the starting point. This district which includes portions of Shoreditch, Mile End New Town, Whitechapel, and Bethnal Green, was known by the general term of "Spitalfields." Bethnal Green at one time really did contain a green; Spitalfields really could boast of fields; and Hollybush Gardens, we suppose, possessed holly bushes at one period of its history. As to the age of the industry it appears certain that it existed as far back as 1454, for in that year a law was passed prohibiting the importation of foreign articles, such as those made by the "silk women" of London, though in what particular portion of London these "silk women" chiefly resided, we cannot say. In 1631 Canterbury was an important centre of the trade, and Messrs. Warner and Ramm have in their possession a book containing patterns of silk woven in the Kentish city at that period. The samples look remarkably well, considering their great age, and include striped velvets, various styles of figured goods, handkerchiefs, and other fabrics. The "Canterbury Book," as its owners call it, is a most valuable historical curiosity, worthy of a place in the British Museum. There are many interesting accounts extant of the progress of the silk trade in the South after the time referred to, and as it is chiefly intended in this article to relate fresh facts, those interested in the matter are requested to examine the works already published, for details as to the condition of the industry up to the commencement of the present century.

(To be continued.)

Bleaching, Dyeing, Printing, etc.

NOTES OF THE MONTH.

Horn's process for producing a white discharge on aniline black dyed goods can hardly be considered satisfactory; he uses as the discharge caustic soda, and prints this on, and then ages the goods for some days; in these days of quick production this latter is a serious defect which will be a bar against the process ever coming into very general use on a large scale.

Perchloride of tin is now very much used for weighting silk, especially for light fancy colours. A writer on silk dyeing in a recent issue of the *Dyer and Calico Printer* states that it is necessary that samples of perchloride of tin used for such purposes should be free from the stannous or protochloride; because the latter has a great reducing action on many coal tar colours. He gives as a test for its presence to dilute the sample with water and add a little starch solution coloured with iodine; the blue colour of the iodide of starch should not be destroyed when mixed with the tin solution.

A French inventor has taken out a patent for a process of dyeing aniline black on cotton, the novelty of which consists in first dyeing the cotton with Congo, benzopurpurine or other red of the same class of colours and then treating in the usual way for the production of aniline black. He speaks of the black as being very fine, ungreenable; and does not require so much of the aniline black to produce good results. We have some slight recollection of seeing this method of dyeing aniline black described before as emanating from Germany; whether there is any advantage in it it is not easy to say, but we have some doubts on the matter.

Mr. Robert Middleton, of Leeds, has devised a new means of automatically reversing the motion of dye jigs, or as they are known in Yorkshire, Weejees. This type of dyeing machine is very well known, and is specially used for cloth or piece dyeing. The cloth is wound on two rollers, one on each side of the jig and passes round other guide rollers under the dye liquor in the jig; the cloth being alternately wound from one roller to another, the reversing action has generally been hitherto done by hand; but this obviously necessitates the attention of a man; many attempts have been made to construct reversing motions which shall automatically reverse the motion of the winding rollers; there are many difficulties in the way of accomplishing this, arising from the varying lengths of the pieces to be dyed and other circumstances. Mr. Middleton secures to which the cloth to be dyed is fastened; to this canvas is attached a "knocker off," which, coming into contact with a suitably arranged lever, actuates the reversing gear up to the dead point between the two motions and the action is then taken up by a weighted lever or spring to complete the reversing motion. A brake is attached to the machine to keep the cloth evenly stretched, and to secure even winding and unwinding of the rollers.

ALIZARINE YELLOW G. G. AND R.

Made by the Hoechst Farbwerke vorm. Meister Lucius and Bruning. Alizarine Yellow G. G. is made according to the German Patent, No. 44,170, by the combination of M-diazonitrobenzol with salicylic acid, it has in common with alizarine the certainly very useful properties, that it is brought into the market in the form of a paste containing 20 per cent. of dyestuff, and is, with alumina and oxide of chrome, fixed upon cotton; with the first-named mordant it yields a fine gold yellow, but little fast to soap; with the last a greenish yellow, completely fast to soap.

Wool, previously mordanted with potassium bichromate and sulphuric acid, at the boil, is dyed with Alizarine Yellow G. G., a very fulling fast yellow colour which resists light.

One part of dried dyestuff is equal in productiveness to fifteen parts of berry extract and eight parts of fustic extract of the average consistence. The pure dyestuff crystallises from alcohol in the form of pale yellow needles melting at 230 degs. C., and having the composition $C_{12}H_8(NO)_2N$; $N_2C_6H_4O_2$. It is little soluble in cold, but easily soluble in hot water. The dyestuff from p-nitrodiazobenzol and salicylic acid has received the name of Alizarine Yellow R., and produces with chrome mordants a brownish orange.

Both dyestuffs are very resistant against chlorine and free chromic acid, so that the mordanting and dyeing can be done in one bath, without fear of a partial destruction of the colouring matter.

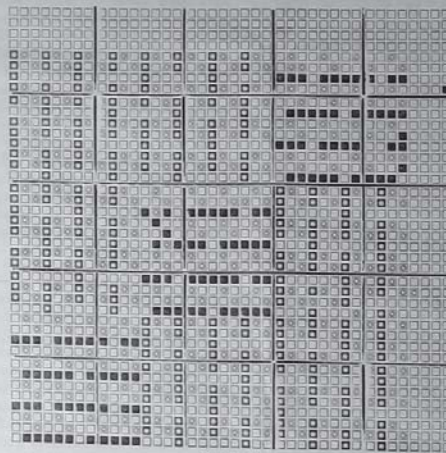
The Hoechst Farbwerke gives the following recipes for the dyeing and printing with Alizarine Yellow G. G. and R.

The wool is mordanted with 3 per cent. potassium bichromate and 1 per cent. sulphuric acid, 60 degs. Be. in the usual method by boiling, and is washed. The water of the dye-bath is corrected with acetic acid, and heated to 40 degs. C., then the wool is entered into the warm bath, which is then, during a period of 45 minutes, brought to the boil and continued at the boil for one hour. This process must be followed when the dyestuff is used along with alizarine; otherwise the 3 per cent. of bichrome and 1 per cent. of sulphuric acid can be added direct to the dyebath.

Cotton is dyed by mixing 1 part of chrome mordant G. A. J. (Hoechst Farbwerke) with 3 to 4 parts of water, dried, then passed through at 60 degs. C. a bath of soda liquor (6 parts ammonia soda per 1,000 of water). Dyed in a bath of alizarine yellow containing acetic acid; entered in the cold; then the temperature of the dyebath is raised in one hour to 90 degs. C., and the temperature kept at this for one hour. It is recommended after dyeing to steam the cotton for one hour.

The printing colour is made with 200 grms. of the alizarine yellow 20 per cent. paste, 500 grms. of the usual acetic acid starch Tragacanth thickening, 200 c.c. acetate of chrome 20 degs. Be. After printing and drying, steamed for 1 hour, then soaped at 80 degs. The yellow is fast to light and soap.

Designing.



Design 27.

NEW DESIGNS.

CARRIAGE RUGS.

Last week two designs were given for producing figured goods of this description, and we now, according to promise, proceed to explain this principle of weaving. Design 26 is for this class of work; only part of the design is given here, but the full effect will readily be produced

from this, the full design occupying 64 ths. and 128 pks. The cloth should be made to the following particulars as given last week, viz:—

Warp.
2/40's grey cotton,
12's reed 2's.
Weft.
1 pick 6 sk. woollen for figure.
1 " " " 1/2 ground.
48 picks on the inch.

On the design being closely examined it will be found to be in reality what may best be described as a double welt effect, further, each welt assists in forming both figure and ground, if such terms may be applied to this class of goods, for if the other side of the fabric be now examined, the same figure will be found developed, but the pick of welt which forms the figure on one side forms the ground on the other, so that these are really reversible cloths. As the cloth appears in the loom, little idea of the ultimate beauty appears; we have only a hard, bare, ungenial piece of stuff, the real beauty being developed in the finishing process; thus the cloths should be raised till almost a plush-like appearance is imparted; this softens down and runs the colours one into the other, giving not only a mellow handle, but a soft and beautiful blend of the colours, which must, of course, be applied with this idea. The designs for this type of cloth may be scroll, floral, or geometrical, but it must be remembered that across each section of the cloth we are limited to two colours welt way and additional colours for the headings, &c., which are generally introduced, being introduced to the exclusion of those already in the fabric. Notwithstanding this limitation of colour, some exceedingly beautiful effects are obtained by a small all-over effect in the design, and the introduction of suitable shades of colour in stripe form.

Since these cloths are made with twice as many picks as threads per inch, in order to produce the figure square, twice as many picks as threads should occupy the same space on paper, but since this requires specially ruled paper, we have been obliged to give the effect on ordinary paper, thus throwing the figure out of proportion.

Designs of this type have been produced for many years in the Textile Department of the Yorkshire College, and form not the least important class of the many and varied classes of fabrics produced in this splendidly equipped institution.

Design is also intended for this class of cloth. It is practically a double plain; two threads and picks of a thin yarn, say 15 sk. to one of, say, 7 sk., the two cloths changing places for the production of the figure.

Perhaps the 4-end twill would answer better, and give a more compact cloth, but, in any case, we must here evidently depend on the effect of the stocks for producing a pile, raising being evidently undesirable.

The double plain weave one of face to one of back is also a most useful weave to employ for all wool cloths for using along with mackintosh. This class of work will claim our consideration later.

WORSTED TROUSERING.

Design 28 is a striped worsted trousering. Fine yarn and a fine sett should be employed; care should be taken, however, to obtain as good a rib effect as is compatible with a good effect in the buckskin and other warp face effect.

To produce a heavier cloth a warp back tied as far as possible according to A might be used, or both warp and welt might be used according to requirements.



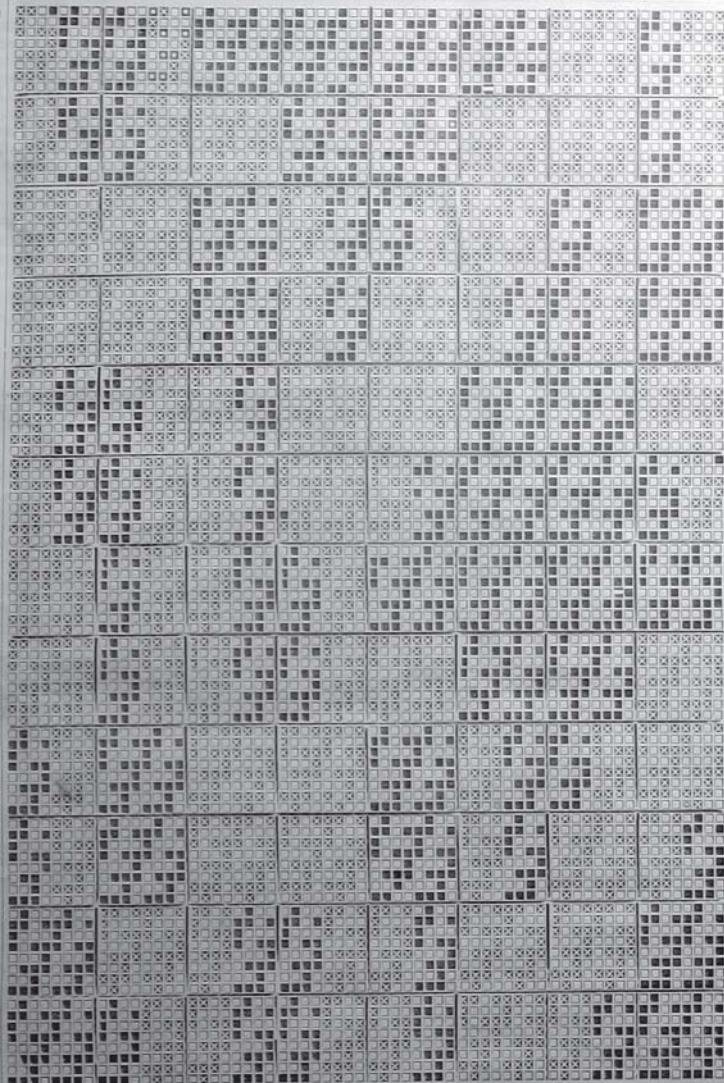
A.



Pegging Plan.

TEXTILE DESIGNS.

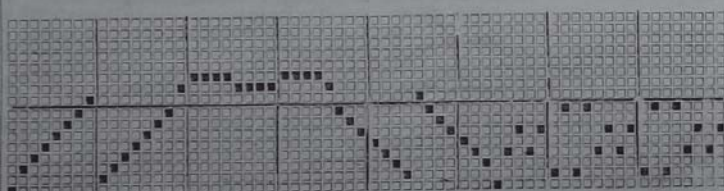
ERRATUM.—In the closing paragraph of our article last week, relating to Meltons, it is stated that the allowance for shrinkage is three-fourths of an inch. It ought to have been three to four inches. The holiday interference with the work of the post-office prevented the return of the proof in due time, and its correction.



Design 26.



Design 28.



Draft for Design 28.