for dark blues it is likely therefore to be largely used.

**NILE BLUE BB.**

This new dye-stuff belongs to the same class of colouring matters as the Nile blue sent out some years ago by the same makers, but it dyes greener shades of blue on tannin-mordanted cotton, while wool and silk may be dyed somewhat finer blue shades from a neutral bath. On cotton the colour is fast to soap, but on wool it is rather loose.

**PATENT BLUE A AND A J.**

Several years ago patent blues have been on the market for some years, and have met with a favourable reception from dyers of both silk and wool, on account of their brilliance and fastness. We are now two more brands to notice, viz., Patent blue A and Patent blue AJ 1. Both will dye wool or silk from a neutral bath, the dyebath containing sulphuric acid by the ordinary method of dyeing azo dye-stuffs; or on wool goods they may be dyed with achrome mordant, the A brand in particular giving good results in this way without any change in shade. Patent blue A is a very greenish bright shade of blue, which are not very deep and the patent blue AJ 1 is a pure bright blue. The shades are quite fast to strong soaps, there being the smallest tendency to bleaching. These two brands of patent blues may, therefore, be safely used for dyeing mordanted goods, especially where they have to be dyed and then be washed. A natural eroded has no action upon the colour, but dilute acids turn it a salmon colour and strong acids a green in this case. Patent blue AJ 1 is not only equally sensitive to acids only that the colour turns yellow. These two patent blues can be used in combination with a chrome mordant, the result being a yellowish blue. Or, by adding nitric acid, they can be used to produce Navy blues. Thus by mordanting with bichromate of potash and sulphuric acid and then dyeing with 8 per cent of azo dye or D.N.W. 2 parts of gullein, and 44 parts of patent blue A, a fine bright navy blue is obtained, which is fast to milling; or a good fast shade can be obtained by dyeing in a bath of 3 per cent patent blue A, 1 per cent cloth red, 10 per cent Glaubers salt, and 7 per cent acetic acid.

**INDIAN BLUES.**

There are several makes of indamine blues on the market. Whether the various dyes-stuffs sold under this name are identical in chemical composition we cannot say, as the information has not yet been made public. The indamines under notice at the present time are placed on the market by the well-known Hoechst firm of Meister, Lucius, and Brüning, and the latest brand is Indamine blue NG, NB, NR, N, N extra. These are basic dyes, dyeing cotton which has been mordanted with tannin and tartar emetic. The NG brand dyes bright blue shades; the NB brand dyes bright blues, rather purer than in the NG blues; the NR shades are decidedly redder and not quite so fast; the N brand are redder and dullish shades of blue; the N extra redder and brighter shades; and the NB extra dark shades of blue. Using 5 per cent of any of the last three brands full deep Navy blues can be dyed. The colours so obtained have the merit of being quite fast to soaps; acids have very little action on them, and no caustic soda has any effect, so that these blues may be ranked among the fastest the cotton dyer can use. By passing the dyed goods through a bath of bichromate of potash after dyeing, the shades are rendered faster to soaps and acids, while they are very little affected in brightness by such passage.

**A NEW BLEACHING MATERIAL.**

A German firm of chemical manufacturers is bringing out a new material, especially intended for the bleaching of silk and wool, and of which they have been using those fibres. This new material, termed sodium superoxide, is supplied in the form of powder readily soluble in water, and the solution so made is ready for use. It is very strong and alkaline, it can be used to add some Epson salts (magnesium sulphate) to neutralise the alkalinity. The bleaching power of permanganate depends, like that of peroxide of hydrogen and peroxide of barium, upon its containing oxygen in a loose state, which under certain conditions is capable of exerting a bleaching action, but its superiority to these two bodies will be manifested when it is stated that while the barium peroxide contains 8% of active oxygen, and hydrogen peroxide 13%, the sodium compound contains 20%. The process of using consists in first scouring the wool or silk fabrics in soap and water in the usual way; then for 10 lb of silk a bath of 25 gallons of water, 1 lb of Epson salts and 1 lb of the sodium compound added. In this bath the silk is immersed for two to three hours, after which the bleaching will be complete. It is best to add the bleaching agent in small quantities at a time, and not all at once. Try the same for silk, but as there is more colouring matter to be extracted from that fibre, more of the bleaching agent—from 2 lb to 3 lb—must be added. The bleached goods, when seen, is much quicker than by the hydrogen peroxide method. After being taken out of the bleaching bath, the silk should be well washed and then brightened by an acid bath. Wool can be bleached in a bath of 10% of the superoxide and 70% Epson salts, at a temperature of 140° F. The material has the advantage over hydrogen peroxide of being cheaper and more stable.

**FINISHING CLOTH.**—Whiteley’s patent process for finishing cloth fabrics consists in folding and placing the cloth between perforated press plates in a hydraulic press. While under pressure a current of steam is sent through the perforated press plates, which are placed on the cloth and out through the other alternate press plate. In the same way currents of hot air may be sent through. In all these means a very firm finish is given to the cloth.

**CLOTH BLEACHED.**

A high-pressure system comes out somewhat narrower than by that of low-pressure, the difference in width between the former amounting to about 1 inch in 50 of width, which is, of course, about the average. It is also found that there is a material saving in the use of caustic soda: for when it is used the shrinkage is greatly increased. Of course, part, if not all, of the weight caused by the bleaching can be recovered by stentering.
NEW DESIGNS.

NEW SHIRTING DESIGNS.

Design A is on 11 shafts, 20-end draft, 20 to the round. The white spots are a weft effect; the ground or warp being all blue, the white spots white, draw, or cream. The warp may be all white, grey, or cream, or any light tints; the wefts in dark shades. In every colour arrangement dark shades to be used either for weft or warp, with any light colour in opposition, or the weave all in grey, piece-dyed or bleached. Warp 20's cotton, in 30 picks per inch, 2 in a dent; 10½ weft, 60 picks per inch; calender finish.

Design B, same counts of warp and weft, 19 shafts, straight-over draft, 19 to the round. This is a shirting fabric similar to Design A, the weft forming the undotted diagonal. Dark shades for ground or warp, with wefts all light. The pegging plan is as the design, the tread and shafts being numbered.

Design C is also for a shirting-cloth, and will form a very handsome angled stripes. It is on 6 shafts, 33-end draft, though this may be extended by repeated draws of any particular section. Warp 20's cotton, 4 in a dent, in an 18 dent per inch reed, 26 picks of 20's weft. We give one pattern as a guide: 10 dark blue, 7 light blue, 9 dark blue, 4 white, all if possible in one heald and dent on the 5th shaft; 4 white in one heald and one dent on the 5th shaft; 4 red in one heald on the 6th shaft; 2 white, one heald, on 3rd shaft; 2 white on 6th shaft complete pattern. Weft all dark blue. This pattern may be varied in colours, or the draft varied. Any number of changes can be effected without any inconvenience, and the weave is extremely simple.

EXTRA WEFT SPOT FIGURE.

A very useful figure for demonstrating clearly the correct method of employing extra weft, should swells not be at hand, is that given in Design D. It will be observed that the extra weft is necessary throughout the piece, although in two places very few threads will be depressed. This of course is a defect, since the best shed is always formed with equal quantities of warp up and down, so that it is evident a more perfect introduction of the extra weft will be obtained by inclining the weaves more; although the pattern as given here is quite workable, since the extra weft ties in star type help to keep down the bottom of the shed. Of course if the cloth be woven wrong side up, as is frequently the case, the above objection will not hold. The star type illustrates very effectively the tying of the extra weft into the cloth. If this extra material is to be cut off these bindings should of course be omitted, and hem binding round the edge of the leaves be inserted.

Warp:
All 24½'s worsted; 14's and 9's.

Wefts:
1 pick 24½'s botany.
1 pick 35's moquette.
1 ground picks per inch.