

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 time ago by the same makers, but it dyes greener shades of blue on tannin-mordanted cotton, while wool and silk may be dyed some fine blue shades from a neutral bath. On cotton the colour is fast to soaping, but on wool it is rather loose.

PATENT BLUE A AND A J I.

Several brands of 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 brilliancy of colour. We have now two more brands to notice, viz., patent blue A and patent blue AJ I. Both will dye wool or silk from baths containing Glauber's salt and sulphuric acid by the ordinary method of dyeing azo dye-stuffs; or on wool goods they may be dyed with a chrome mordant, the A brand in particular giving good results in this way without any change in shade. Patent blue A dyes very greenish bright shades of blue, which are not very deep; and the patent blue AJ I dyes a pure bright blue. The shades are quite fast to a strong soaping, there being not the slightest tendency to bleed. These two brands of patent blues may, therefore, be safely used for dyeing milled goods, especially where they have to be milled along with white goods. Caustic soda has no action upon the colour, but dilute acids turn it a salmon colour, and strong acids a green in the case of the A brand. The AJ I brand is equally sensitive to acids only that the colour turns yellow. These two patent blues can be used in combination with cloth red, alizarine blue, or logwood to produce Navy blues. Thus by mordanting with bichromate of potash and sulphuric acid and then dyeing in a bath of 8 % of alizarine blue DNW, 2 % of gallein, and 4 1/4 % of patent blue A, a fine bright navy blue is obtained, which is fast to milling; while a good fast navy blue can be got by dyeing in a bath of 3 % patent blue AJ I, 3/4 % cloth red, 10 % Glauber's salt, and 7 % acetic acid.

INDAMINE BLUES.

There are several makes of indamine blues on the market. Whether the various dye-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 brands are Indamine blue NG, NB, NR, N, N extra, NB extra. These are basic dye-stuffs dyeing cotton which has been mordanted with tannin and tartar emetic. The NG brand dyes bright greenish-blue shades; the NB brand dyes bright blues, rather purer in tone than the NG blues; the NR shades are decidedly redder and not quite so bright; the N brand dyes rather violet and dullish shades of blue; the N extra redder and brighter shades; and the NB extra dark shades of blue. Using 4 % 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 soaping; acids have very little action, and caustic soda has none, 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 soaping and acids, while they are very little affected in brightness by such passage.

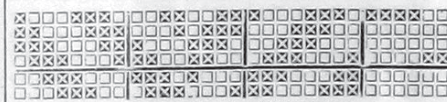
A NEW BLEACHING MATERIAL.

A German firm of chemical manufacturers is bringing out a new material, especially intended for the bleaching of silk and wool, and of mixed fabrics containing 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; but being strongly alkaline, it is best to add some Epsom salts (magnesium sulphate) to neutralise the alkalinity. The bleaching powder of sodium superoxide 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

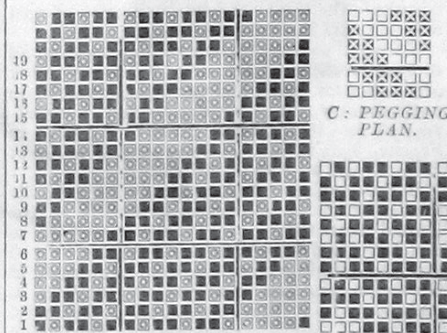
exerting a bleaching action; but its superiority to these two bodies will be manifest when it is stated that while the barium peroxide contains 8% of active oxygen, and hydrogen peroxide 1 1/4%, the sodium compound contains 20%. The process of using consists in first scouring the wool or silk fabrics in soap and water in the usual way; then for 10 lb. of silk a bath of 25 gallons of water is taken, and 9 lb. of Epsom salts and 1 lb. of the sodium compound added. In this bath the silk is immersed for from two to three hours, at the end of which time the silk will be bleached. It is best to add the bleaching agent in small quantities at a time, and not all at once. The process is exactly the same for Tussur 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 process, it will be 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 30% Epsom salts, at a temperature of 150° 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 them between hollow perforated press plates in a hydraulic press. While under pressure a current of steam is sent through alternate press plates, which passes through the cloth and out through the other alternate press plate. In the same way currents of hot air may be sent through. By these means a very fine finish can be given to the cloth.

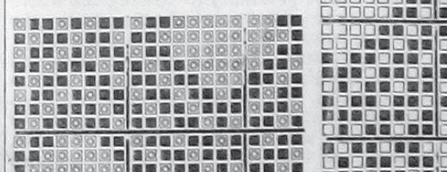
CLOTH bleached by a high-pressure system comes out somewhat narrower than by that of low-pressure, the difference in width between them amounting to about 1 inch in 50 of width, which is, of course, about the average. It is also found that there is as much difference caused by the use or non-use of caustic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



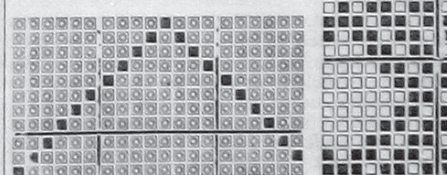
DESIGN C: SHIRTING.



DESIGN B: SHIRTING.



A: PEGGING PLAN.



A: DRAFT.

Designing.

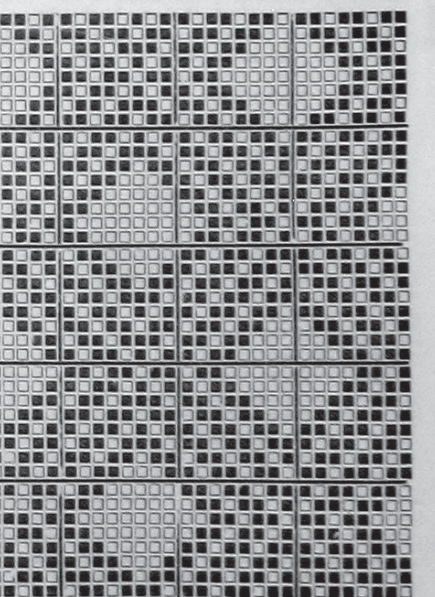
DESIGNS FROM THE VEGETABLE AND ANIMAL WORLD.

A thoughtful writer in a German technical journal has been urging textile designers to draw mainly for their designs on the vegetable world. The great realm of flowers, he maintains, is that in which the most fruitful ideas for the ornamentation of designs can be found: the plant must be regarded as the mother of textile decoration. The field thus opened up to the designer is boundless and unfathomable for those who have learned how to study it in relation to shape, growth, and purpose. There is no other which furnishes such an infinite variety of new forms, and supplies so strong a stimulus to original ideas.

The suggestions made not long ago for the adoption of designs from the animal world as revealed by the microscope, are discussed and condemned. "A short time since," he writes, "the technical papers stated that a Strasburg professor was about to issue representations of a large number of microscopic forms of life, with a view to their use in the designing of dress patterns; and that thus a new kind of decoration would be created, which would supplant the styles of ornament in vogue, as well as the natural ornamentation taken from the vegetable world. It may indeed be assumed that these microscopic forms, being quite strange to the purchaser, may perhaps so confuse him for a short time that he will welcome the patterns decorated with them, however destitute they may be of real taste; but it is certain that before long the public will turn away from them. The rapid intoxication will be succeeded by as rapid a return to sobriety, and designers will come back with all the greater love to vegetable forms and the styles developed out of them. Microscopic figures are so distant alike from the common people and the designer, are so little understood by both, and have so little interest for both, that they will be popular only for a short time, and that solely on account of their novelty; and will therefore not be able to compete successfully with the plant. Civilised man is inseparably connected with the latter; he loves it and enjoys it, and therefore seeks to decorate the objects round about him and his person with its formations."



C: DRAFT.



DESIGN A: SHIRTING.

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, straw, 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 dents per inch, 2 in a dent; 16's weft, 60 picks per inch; calendar 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.

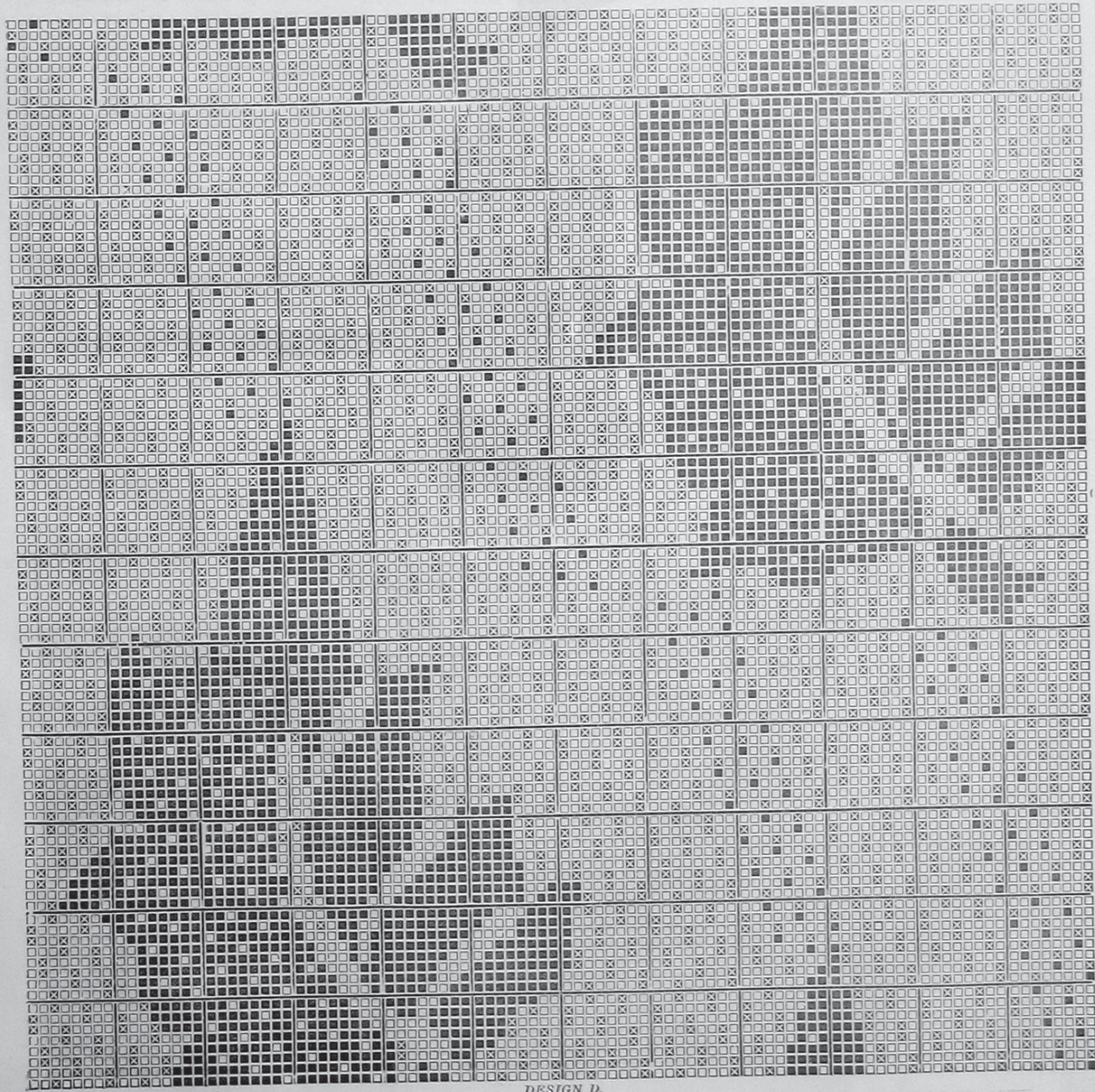
Design C is also for a shirting-cloth, and will form a very handsome angled stripe. It is on 6 shafts, 32-end draft, though this may be extended by repeated draws of any particular section. Warp 20's cotton, 4 in a dent, in an 18-dent per inch reed, 56 picks of 20's weft. We give one pattern as a guide: 10 dark blue, 2 light blue, 10 dark blue, 4 white, all if possible in one heald and one dent on the 6th shaft; 4 white in one heald and one dent on the 3rd shaft; 4 red in one heald on the 6th shaft; 4 white, one heald, on 3rd shaft; and 4 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 swivels 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 leaves more; although the pattern as given here is quite weavable, 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 firm binding round the edge of the leaves be inserted.

Warp.
All 2-48's worsted; 14's and 6's.
Weft.
1 pick 24's botany.
1 pick 30's mohair.
84 ground picks per inch.



DESIGN D.