

using mixtures of chrysamine and deltapurpurine in various proportions, orange shades are obtained.

BLACK BLOWS.—Dye with jet-black R, 10 per cent. salt, boiling for 1 hour. By adding a little benzobrown a deep black is obtained.

BLACK GRAYS.—Boil for 1 hour with 3 per cent. bichromate of potash, 6 per cent. alum, and 6 per cent. tartar; let lie over night, and dye on the following day, for 1 hour at the boil, with 10 per cent. fustic extract, 1½ per cent. logwood, and 3 per cent. madder, or a little alizarine.

OLEIN.

Under the term "olein," or "oleine," there are certain products of an oily nature in use for various industrial purposes. There are at least three distinct bodies known under this name, differing in their origin, properties, and uses; hence there is always some confusion as to what is meant by olein. As these products are much used by dyers, bleachers, wool scourers, and manufacturers, for a great variety of purposes in connection with the textile industries, it may be worth while to deal with them somewhat in detail.

"Olein," to a scientific chemist, is the name of a body formed by the union of glycerine and oleic acid, and having the composition shewn by the formula, $C_{33}H_{53}O_2$ —oleate of glyceryl, which constitutes the liquid portion of almost all oils and fats. This body is extracted by pressing from tallow, and is obtained as a clear, slightly yellowish oil. It is used chiefly for lubricating machinery. This product in its purest form is the true olein. It has a specific gravity of about 0.917 at 60° F.; is insoluble in alcohol, but is soluble in ether, carbon bisulphide, petroleum, and shale spirits, benzene, and other solvents. On being boiled with a solution of caustic potash, or of caustic soda, it becomes saponified and dissolves in the aqueous solutions. The olein or oil is split up by the action of the alkali into its constituents, glycerine and fatty (oleic) acid, the former in the free condition, the latter in combination with the alkali in the form of soap. All the olein is thus convertible into soap.

Olein in one or other of its forms, lard oil, animal oil, olive oil, etc., is used for lubricating machinery, and for wool batching, for which latter purpose it is superior to most other products on account of its excellent lubricating powers, and the ease with which it can afterwards be entirely eliminated from the wool.

Under the term "Oleine" there are offered for batching wool products that, while having a similar composition yet differ in their origin. One of these is the crude oleic acid of the candle makers. Tallow consists of two bodies, olein and stearin; palm oil of olein and palmitin. It has been found that the fatty acids, palmitic and stearic acid, form excellent materials for making candles, while oleic acid, being liquid, is useless for that purpose. The fats above-named are saponified, the fatty acids separated from the glycerine, and then subjected to hydraulic pressure; the oleic acid is pressed out as a liquid, while the solid stearic or palmitic acids remain behind in the press cloths.

The crude oleic acid, which was at first used for making soap, was introduced by Price's Patent Candle Co., under the name Cloth Oil, for oiling or batching wool, and is now most extensively used for that purpose, for which it is very well adapted, being almost, if not quite, equal to a good olein, such as olive oil. Oleic acid (oleine) varies very much in appearance, ranging from a faint yellowish to a dark reddish oily liquid. This variation is due to differences in the mode of saponification of the fats used, and as to whether it has undergone any process of refining. Its specific gravity varies from 0.887 to 0.908. It is completely soluble in alcohol and other solvents of oil; combines readily with caustic alkalis to form soap; its odour is slightly rancid, and its taste acid; and it exerts a corrosive action on metals, especially on copper and its alloys.

(To be continued.)

"NOIR REDUIT," or "reduced black," is a preparation largely sold on the Continent, and offered in this country for printing black on calico. It is said to be made by taking 31½ kilos. of logwood extract at 51° Tw., and mixing with a warm solution of 3 kilos. of bichromate of potash in 13½ kilos. of acetic acid at 12° Tw., when a thick mass is obtained. To this are added 15½ kilos. sodium bisulphite, and the mixture is heated to 95° C. The precipitated black is thereby dissolved, and the mixture is now ready for the market. In printing it is thickened with starch paste. Chrome acetate mordant gives a blue black, while a mixture of chrome and iron acetates gives a jet black. The black may be toned with magenta, methyl violet, etc., and pale shades obtained by increasing the proportion of thickening. After printing, the goods are steamed.

Designing.

NEW DESIGNS.

DHOOTIE BORDER.

This design is from a Dhootie made at Lahore, Punjab. Length 3 yards 20 inches; width 1 yard 10 inches; weight 12 ounces. The figures at bottom of design indicate the various colours. No 1: dark blue; 2: yellow; 3: the dark type green silk, the light type white cotton; 4: the light type gold, the dark type crimson cotton; the dark type bars running across are green silk, giving a check appearance; 5: dark type gold and green cotton twisted, the light type red cotton.

SCOTCH TWEEDS.

Notwithstanding the extensive and effective application of colour to this class of goods, the neat, yet pleasing, makes of cloth usually made of all one colour, or of two colours at most, continue and will continue to attract attention; in fact, in many cases where one really fancy coloured cloth is sold, six of these "bread and butter" designs, as they are called, are disposed of. The four-end twill is a very usual make, and effects produced with this weave combined with colour have long held an important place in the market.

The following particulars are suitable:—

<i>Warp.</i> All 20 sk.	<i>Weft.</i> All 20 sk.
10's reed 4's or 11's reed 4's.	40 picks per inch.

Or the following:—

<i>Warp.</i> All 10 sk.	<i>Weft.</i> All 10 sk.
8's reed 4's.	30 picks per inch.

In A and B are shewn two effects, produced by colour and the two and two twill, which are extensively used as suggested. The light circles shew how the weave is applied, and the solid type the effect produced by warping and wefting 2 black and 2 white. It will be noticed that the stripes produced are practically the same, but that one is horizontal and the other vertical, so that in figuring with these two effects the designer is practically limited to horizontal or vertical bars; but then the colours need not always be the same nor need they be applied in the same order; thus, solid warp and weft, 1 light and 1 dark in both warp and weft, 1 and 1 in the warp and 2 and 2 in the weft might be used, in each case a slight modification being noticeable.

In Design 57 we furnish a check for using with colour. If the warp be 2 threads light and 2 threads dark in the hopsack portion, we shall have a series of straight upright lines, as will be evident on consulting C, and in the twill portion a series of horizontal lines developed according to A.

The following gradation in shade or colours will be found suitable:—

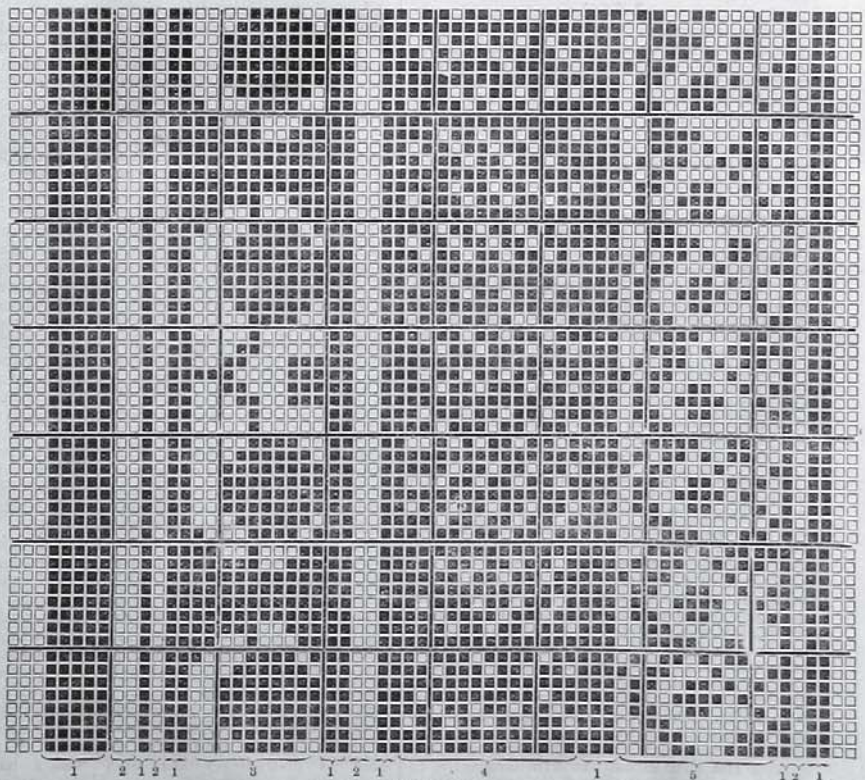
2 threads medium dark,	2 threads dark,
2 " " light,	2 " " light,
For 32 threads.	For 8 threads.

To be applied in both warp and weft.

The following colouring will also prove effective for a dark pattern

2 threads black,	} For 8 threads.
2 " " dark olive,	
1 thread black and red twist,	
7 thread dark green.	

If the effect produced in B is used, endeavours should be made to make the pattern attractive and less raw by beautiful colour combinations. We are decidedly of the opinion that there is yet much to be done in this direction. Powerful contrasts and effects have so far been the



DHOOTIE BORDER.

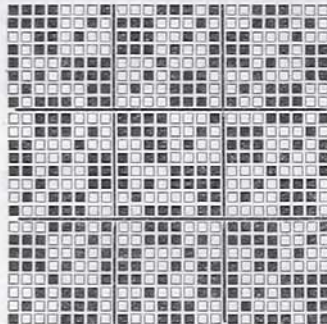
distinguishing characteristics of Scotch tweeds, but the tendency of the times will probably now require more sober contrasts and delicate blending of colours than have as yet been called into requisition.

WORSTEDS.

Design 58 is furnished for a fine light summer coating. Made in various shades of grey it will yield a pleasing pattern, and also in the various light colours which are required in such cloths. The following sett should be used:—

Warp. All 2/40's worsted 19's reeds 4's. Weft. All 20's worsted 76 picks per inch.

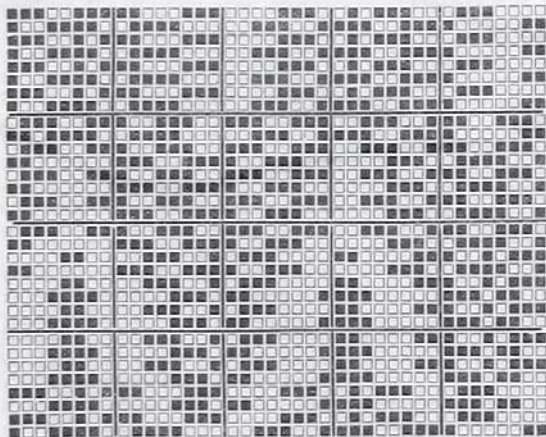
From the Boston Journal of Commerce we have reproduced Designs 59 and 60 as excellent examples of modifications of the corkscrew weave so commonly used. In Design 59 a twill effect is introduced, while in Design 60 a check effect is obtained. From these many more effects will be suggested, which will, undoubtedly, prove useful patterns. The ordinary corkscrew sett should be used.



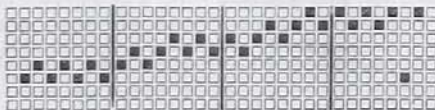
DESIGN 58.

COTTON SHIRTING.

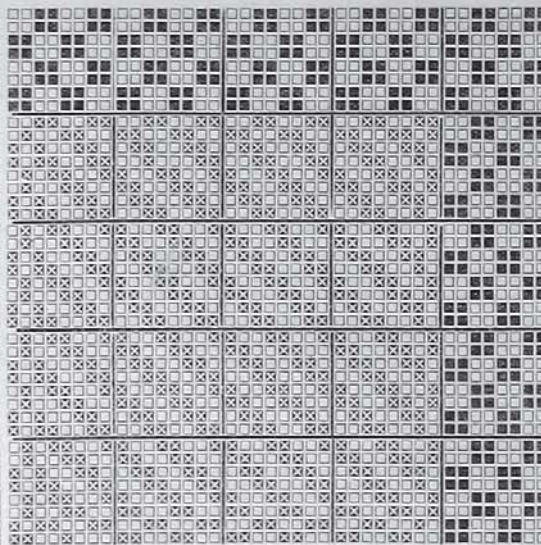
No. 1 design is on six shafts, thirty end draft, twenty to the round 44 reed, Stockport count, two and three in a dent; by referring to the draft plan it will be seen where the three in a dent appears. A very effective and good shirting cloth may be made from 24's twist, 16's cop weft, 52 picks per inch; warp dark blue, or any other dark shade. This design would also be useful for ladies' morning wrappers during the summer, the warp being of a light buff, and the weft 40's linen. The size of the figure will depend greatly on the grist of warp and weft, ends and picks per inch; but there is ample room for producing variety of pattern by colours and checking with two or more shuttles.



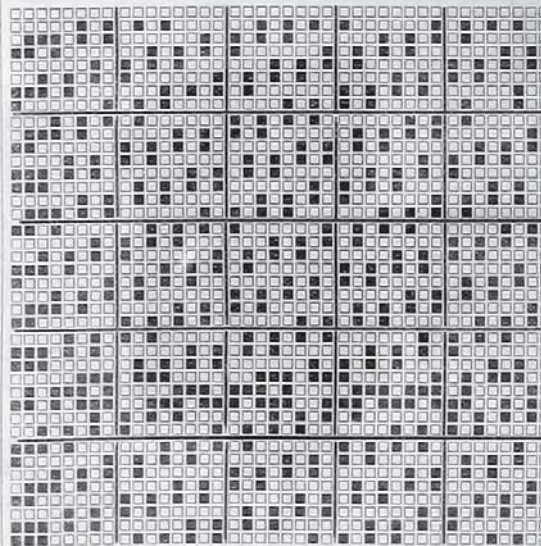
No. 1.—COTTON SHIRTING.



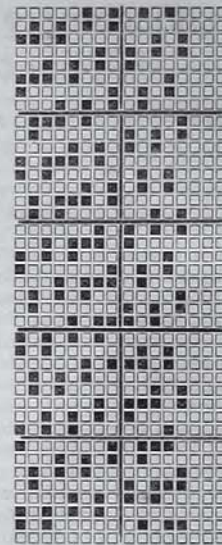
DRAFT FOR No. 1.



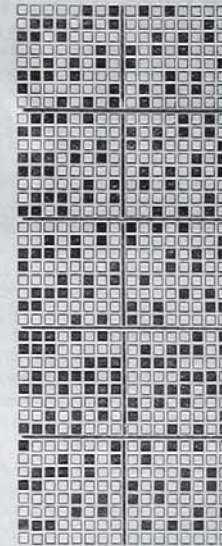
DESIGN 57.



DESIGN 60.

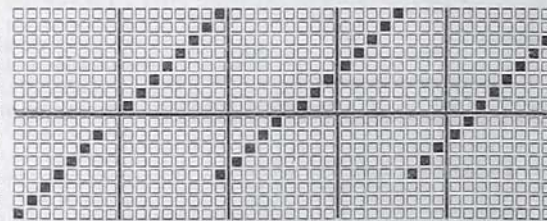


DESIGN 59.

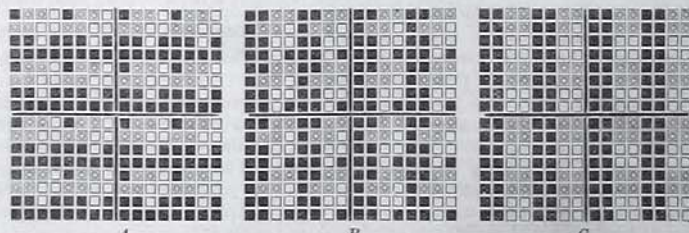


PEGGING PLAN FOR DESIGN 60.

PEGGING PLAN, No. 1.



DRAFT FOR DESIGN 60.



A

B

C