

kiers are being filled. The goods in No. 1 are being boiled up and treated with the bleaching liquors, which circulate into the kier through pipes suitably arranged. By the time the last kier has been filled the first kier is ready to be emptied. This arrangement is certainly an ingenious one, and is quite practicable; there is no doubt that it presents some advantages over the old system, where the kiers are arranged in a straight line; inasmuch as it will save much labour, and it is certainly a decided advantage to be able to fill the kiers from one spot, and will help towards a better arrangement of the rest of the bleaching machinery.

Dr. Hugo Erdman, of Halle, has patented a cold process of dyeing hair and feathers. It consists in preparing a bath of paraphenylene-diamine with caustic soda; with this the hair or feathers are impregnated, and are afterwards submitted to an oxidising process, generally by treating with peroxide of hydrogen. After some time, about 24 hours, the hair, etc., is dyed a black colour, which can, by repeating the process, be made very deep. By substituting chinone for the peroxide of hydrogen a brown colour is obtained; by varying the strength of the chinone solution various shades, from what the patentee calls fair to black, can be obtained. Dr. Erdman specially states that his new process is applicable for dyeing hair of the head and beard, and as the substances used are not injurious, they possess many advantages over the metallic salts which have been hitherto used for this purpose. We should think that this process might be applied in the dyeing of skins, skin rugs, etc., with advantage; for with these it is necessary to perform the dyeing operations below 160° F., as anything higher spoils the skin; and some colours it is difficult to dye owing to such colours necessitating a boiling temperature.

**A NEW INDIGO VAT.**—It will be some years before indigo is displaced by any artificial product or any substitute. At present these bodies are much more expensive to apply than is indigo, and there seems little likelihood of the cost being reduced to enable them to compete; and as the quality of the indigo is being improved, and the quantity obtainable from the plant is also being increased by the use of improved processes, the time when it will be supplanted by artificial indigo is getting more remote. Of course one hardly knows what will happen in the chemical world, and some new compound may be found out which will yield artificial indigo very cheaply. Still inventors have in view the improvement of the methods of applying indigo, and Mr. James Cowan, of Glasgow, has recently taken out a patent for a new process for preparing an indigo vat. He grinds together indigo, zinc powder, sugar, and potassium carbonate in a suitable mill, and so obtains a dry compound. This is supplied as a commercial article. To prepare a vat some of this is taken and mixed with sulphuric acid and bisulphite of soda, when the indigo will dissolve, and it is then ready for use. The new vat is much more quickly made than any of the old vats, and is decidedly more economical in use, inasmuch as there is no sedimentary matter to deal with. A liquid vat is prepared by grinding together the above constituents with bisulphite of soda, and this, like the dry mixture, is a commercial article. The new vat may be used continuously for hours, whereas with all existing vats it is necessary to allow them to rest for a time to allow the sediment to settle. The new vat, too, can be used hot or cold, and this is a great advantage, especially in dyeing wool, while indigo dyed hot on cotton is faster to soaping than when cold dyed.

A new method for pushing business in India has just been originated. It is proposed to run a train of 30 carriages from Calcutta, containing the goods and samples of such firms as desire to cultivate or increase business with the North-Western Province. This train is to stop at all the chief stations, remaining two days at the larger, one day at the smaller, and a few hours only at the less important. Firms who adopt the scheme are to send assistants with the goods to look after them and sell them.

**MANCHESTER CHAMBER OF COMMERCE.**—The following gentlemen have been nominated to serve as directors for the ensuing year, in view of the annual meeting of the Chamber, to be held on the 3rd proximo:—Benjamin Carver, proposed by Henry Samson, seconded by C. E. Demetriadi; \*W. W. Clapham, proposed by J. Thewlis Johnson, seconded by A. K. Dyson; \*Jeremiah Garnett, proposed by John Mark, seconded by John S. Dods; \*A. B. Rowley, proposed by Ivan Levinstein, seconded by Benjamin Armitage (Choclea); \*Duncan Matheson, proposed by Rudolph Dehn, seconded by S. Nördlinger; Sir J. C. Lee, proposed by George Lord, seconded by John Alex. Beth; William Fogg, proposed by G. H. Gaddum, seconded by Samuel Ogden; Charles S. Agnew, proposed by Isaac Hoyle, M.P., seconded by George Lord; R. C. Richards, proposed by George Harker, seconded by J. E. Longson; John Thompson, proposed by Benjamin Armitage, seconded by Jeremiah Garnett. The number to be elected is nine. In this list the retiring directors are denoted by an asterisk.

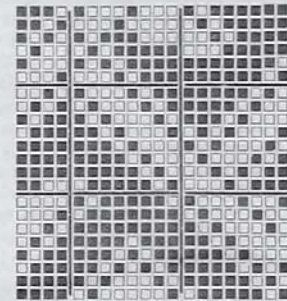
## Designing.

### NEW DESIGNS.

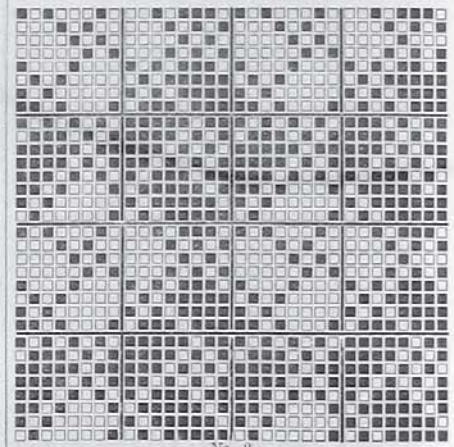
#### SPRING DESIGNS IN COTTON, SILK, LINEN, OR WORSTED.

In the spring designs No. 1 and 2, which we introduce to the notice of makers of fancy dress goods in cotton, silk, linen, or worsted, every facility and scope is given for the exercise of their judgment, taste, and choice of such materials as may be on hand to produce a cloth which ought to command a ready sale. Hard and fast lines cannot be laid down as regards proportion of yarns or colour, for such are the vagaries of taste and fashion that the best efforts of designers are upset and well-known rules violated; numerous instances could be given of customers refusing to give orders unless some shade or tint in the composition were removed to please their eye, although in strict accordance with complement or harmony. It is a very difficult task to please the public, but a basis may be given that can be worked from either under or over, as circumstances permit: 60 ends and 60 picks per inch 16's warp and weft; if a bolder figure be required, two in a heald of 24's warp and end and 24's double weft will give the

necessary result, keeping warp and weft as equally balanced as possible. Warp any dark shade, black, dark blue, dark brown, chocolate and maroon, weft white or any light tints, or warp of light tint and weft in all the fancy shadings, as jasper and bronze greens, Java and red browns, dark, sapphire, and Hungarian blues, terra cotta, &c. Worsted, linen, or silk may be shot over cotton warp, or warp may be any of the above materials and weft cotton.

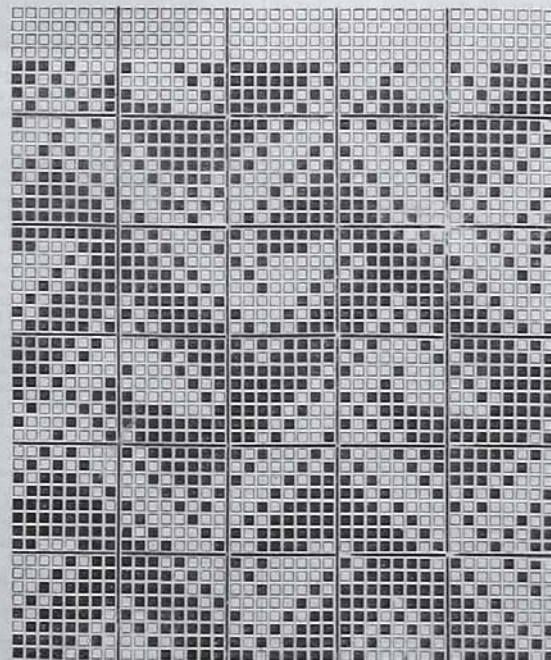


Pegging Plan No. 1



No. 2.

16 shafts 16 picks to the round. Straight draft Pegging plan is taken from the design by the first 16 vertical or horizontal spaces.



No. 1.

20 shafts 22 picks to the round. Straight over draft.

WOOLLEN MANTLE CLOTH.

Design 41 is furnished for this class of material. It consists essentially of a ribbed portion A developed in crosses, the 2 and 2 twill and the 8 shaft diagonal, the design as here given repeating on 96 threads and 48 picks.

Section A developed in crosses requires closer setting than the section developed in solid; for the twilled section the following sett is suitable:—

Warp. All 36 sk. woollen. 19's reed 4's.

Weft. All 36 sk. woollen. 50 picks per inch.

Of course, extra heads, or heads specially made are required, in order to weave the two sections A and B together, since the ribbed sections will require considerably more mails per inch than the twilled section.

The colours employed modify to perhaps a greater extent than the weave, the appearance of the cloth. Now if section A be warped 1 thread black, and 1 thread white, we shall obtain first a black rib and then a white rib. For section B, a light grey warp might be used, then, if a dark grey weft is inserted, we shall get the twill figure prominently developed, edged with a stripe consisting of first, a square of black, and then a square of white. This system of shading will give a very neat effect, but with colours introduced, much more stylish cloths may be produced. The following are suitable colourings:—

|                            |          |                   |          |
|----------------------------|----------|-------------------|----------|
| <i>Patt. 1.</i>            |          | <i>Patt. 2.</i>   |          |
| 1 th. light blue grey,     | } for 16 | 1 th. drk. brown, | } for 16 |
| 1 " buff gray,             |          | 1 " light brown,  |          |
| 16 " threads of dark grey, | } for 16 | 16 " olive,       | } for 16 |
| 16 " buff,                 |          | 16 " grey olive,  |          |
| 16 " dark grey,            | } for 16 | 16 " olive,       | } for 16 |
| 1 " light blue grey,       |          | 1 " black,        |          |
| 1 " buff grey,             | } for 16 | 1 " white,        | } for 16 |
| 16 " dark grey.            |          | 16 " olive.       |          |
| <i>Patt. 3.</i>            |          | <i>Patt. 4.</i>   |          |
| 1 th. drk. olive green,    | } for 16 | 1 th. yellow,     | } for 16 |
| 1 " lgt. olive yellow,     |          | 1 " dark brown,   |          |

|                           |                 |
|---------------------------|-----------------|
| 8 " dark green            | 8 " mid grey,   |
| 8 " maroon,               | 8 " white,      |
| 16 " dark green,          | 16 " mid grey,  |
| 8 " maroon,               | 8 " white,      |
| 8 " dark green,           | 8 " mid grey,   |
| 1 " drk. olive green,     | 1 " yellow,     |
| 1 " light " yellow,       | 1 " dark brown, |
| 16 " drk. green or maroon | 16 " light grey |

Brown, yellow and green; lavender, sage green, and brown and green mixture; and light brown, dark brown and dark green, are also suitable colourings to use.

The weave stripes may be made broader or narrower, according to requirements.

FIGURED DRESS FABRIC.

Figure 5 is furnished for this class of fabrics, and may be utilized in many ways.

First, we might form the ground of A, and the figure of B, when, if a lustrous yarn is used for weft, the figure will be very clearly developed. Another system would be to warp the cloth 1 thread of a light colour, and 1 thread of a dark colour, then produce a hairline stripe by means of the plain weave for the ground, and develop one of the semi-circles in the dark colour, and one in the light colour, by means of the double plain weave.

Again, a plain ground, and warp and weft flushes might be resorted to, when the following sett should be used:—

Warp. 2/60's lavender, or other lightish coloured silk. 36's reed 2's.

Weft. 30's white silk. 72 picks per inch.

Lastly, this figure would make an excellent figured waistcoat. A twilled ground, straight or drafted should be used, and the two semi-circles might be developed in the same coloured silk, as an extra weft figure, or two extra colours might be used. The figure would be most useful distributed on the 5 end sateen arrangement, but varying circumstances produce different requirements, so we leave the matter in the designer's hands.

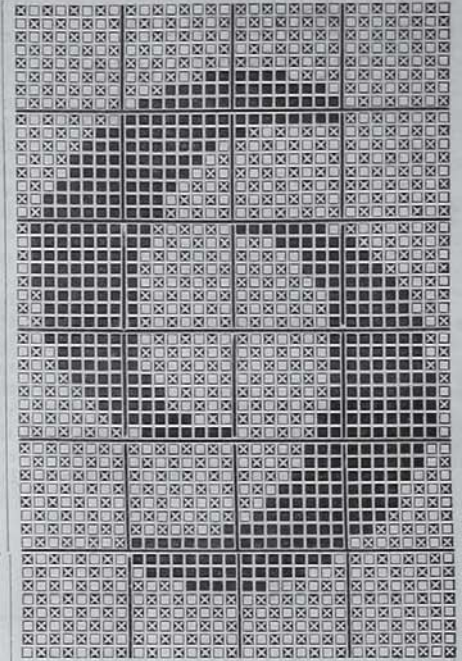
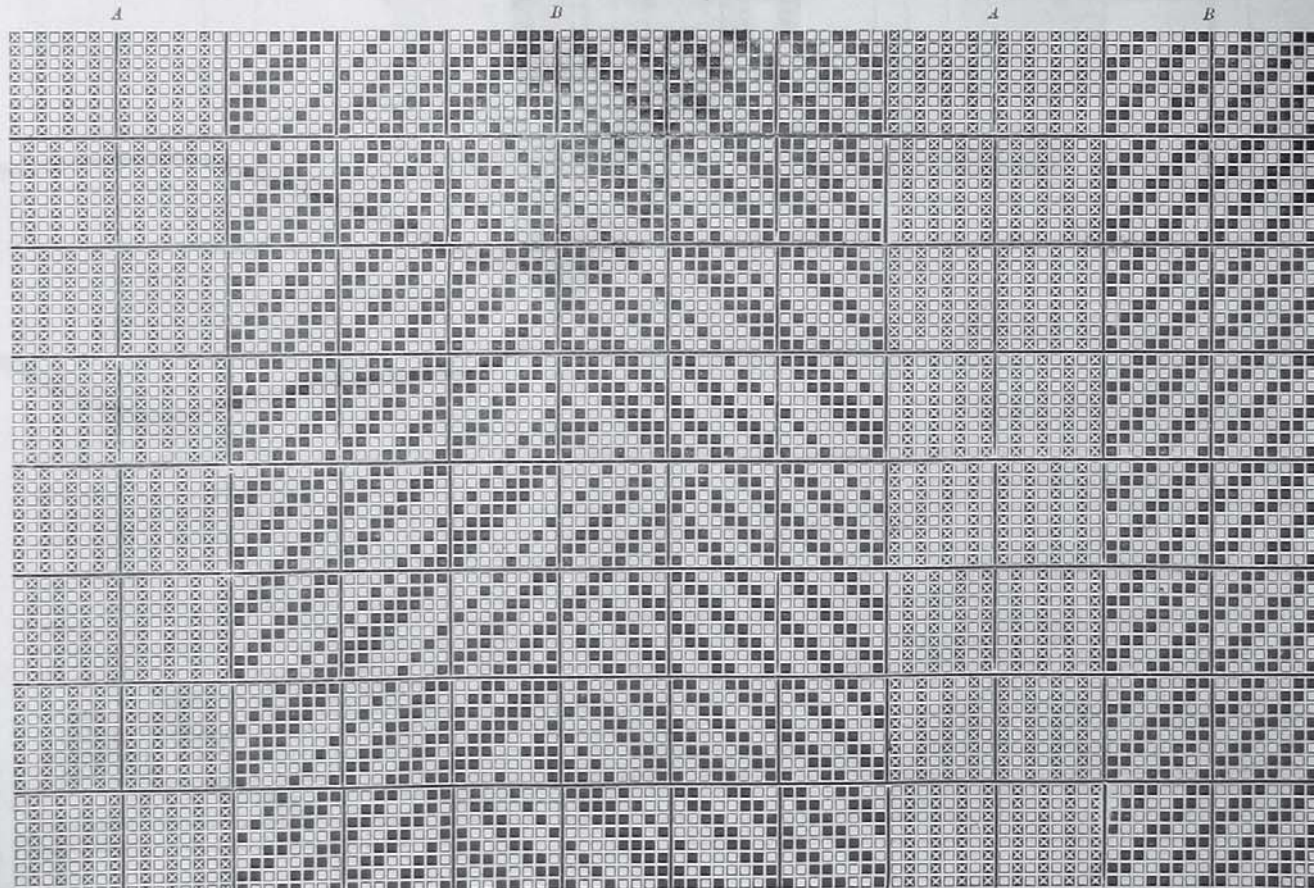


FIGURE 5.



DESIGN 41.